

BUSINESS WEEK

Atomic Power

RIGHT AROUND THE CORNER
SPECIAL REPORT PAGE 100

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PAGE 22

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INDEX
YEAR
AGO



Premier Nikolai Bulganin

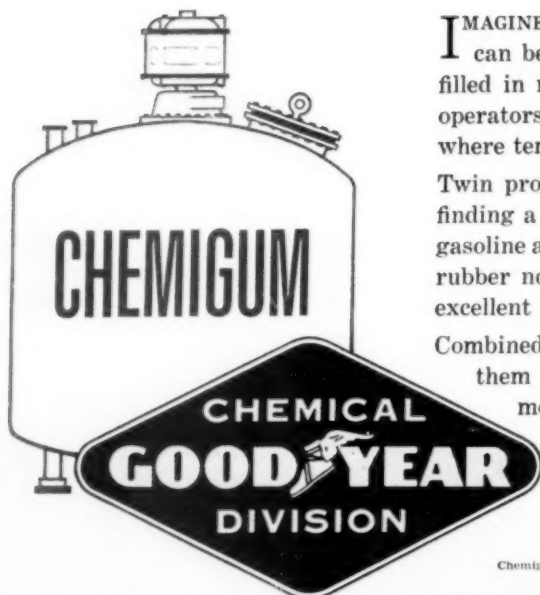
A MCGRAW-HILL PUBLICATION

FEB. 12, 1955

MIAMI UNIVERSITY
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PERIODICAL RECORD
OXFORD OHIO



New feed bag for work "Horses"



IMAGINE a 10,000 gallon fuel tank that weighs only 750 pounds, can be carried in a small chest, then unrolled like a rug and filled in minutes. It's a reality and a boon to the military and operators of trucks, earth-movers, oil rigs or other equipment where temporary storage of fuel is required.

Twin problem for designers of this rubberized fabric tank was finding a workable rubber that could withstand a wide range of gasoline and other fuels. They finally chose **CHEMIGUM**—the nitrile rubber noted for ease of processing, unusual oil resistance and excellent physical properties.

Combined with plies of nylon fabric, **CHEMIGUM** readily gave them a safe, strong, flexible, all-weather container for the most volatile fuels. How can this versatile, oil-resistant rubber help your product? Details? Write to:

Goodyear, Chemical Division, Department B-9415,
Akron 16, Ohio.

Chemigum, Pliobond, Pliolite, Plio-Tuf, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

The Finest Chemicals for Industry

CHEMIGUM • PLIOBOND • PLIOLITE • PLIO-TUF • PLIOVIC • WING-CHEMICALS

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TELEPH



Teletypewriter Service helps Pullman play host to 50,000 guests

It takes real organization to play host to 50,000 travelers every night — and good communications are needed for this nationwide job.

The Pullman Company has found that Bell System service is the answer to its communications problems. From a Message Center in Chicago, a private line teletypewriter network reaches out over 9000 miles, affording direct contact with 57 outlying offices.

This puts speed into hundreds of routine chores. It enables Pullman to

give the public smooth service—saves expense in transferring material, operating cars, restoring lost valuables. A tool gets to the shop quicker. A repair goes faster.

"More efficient management of our business is an advantage of the system," a Pullman official says "... in addition to being more economical."

Bell System can improve efficiency, save you money. Just call your Bell telephone representative for more information.



How messages are speeded

- A 9000-mile nationwide teletypewriter hookup of 9 intercity circuits connects the Chicago Message Center with 57 stations in 46 cities.
- Chicago is the nerve center of the network. Circuits radiate to secondary relay centers in Philadelphia, Atlanta, St. Louis and San Francisco.
- Semi-automatic tape relay equipment is used to speed messages between switching centers and outlying stations.

BELL TELEPHONE SYSTEM



TELEPHONE

TELETYPEWRITER

MOBILE RADIO

TELEMETERING AND REMOTE CONTROL CHANNELS



Added Evidence
that...

Everyone Can Count on VEEDER-ROOT

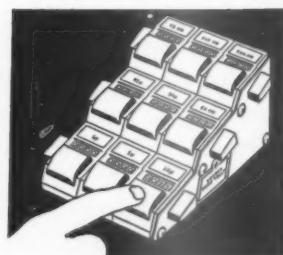
In figuring out new systems of automatic electrical control, Veeder-Root Control can supply vital connecting links. For instance, this Predetermining Counter can be hooked into such a system to light a light, ring a bell, or actuate a mechanism to stop a machine or process at any pre-set point. And there are many other Veeder-Root Counters that can serve as "components" in almost any way desired. Or special counters can be designed for specific applications. Engineers in any industry, now engaged in working out automatic control systems, can count on Veeder-Root engineers to work with them on any problem where reliable facts-in-figures are needed.

VEEDER-ROOT INCORPORATED • Hartford 2, Connecticut



Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C. • Montreal 2, Canada
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"The Name That Counts"



New Vary-Tally Multiple-Unit Reset Counter comes in any combination up to 6 banks high, and 12 units wide. Write for news sheet and prices.

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BUSINESS

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It's not easy to find the Webster Baseboard Heating in this living-room at Marple Gardens, Broomall, Pa. Note wall-to-wall carpeting, floor-length draperies. Architect: Jesse L. Stetler, Haverford, Pa. Builder: McGarry & Cella, Drexel Hill, Pa. Plumbing & Heating Contractor: Edward R. Sabin Co., Philadelphia, Pa.

HEATING COMFORT ...LOW FUEL COST IN \$13,490 HOME

McGarry & Cella, Builders, used Webster Tru-Perimeter Forced Hot Water Baseboard Heating in these 3-bedroom 36x31 ft. ranch houses, selling for \$13,490 up. Buyers report first-season fuel oil costs for heat and hot water less than \$130 plus top heating comfort.

They get clean, gentle, quiet, uniform heat . . . comfort even alongside picture windows . . . no loss of floor or wall space, nothing to interfere with furniture or decoration . . . no hot or cold spots.



View in Marple Gardens, where 57 homes have Tru-Perimeter Webster Baseboard Heating.

For quality heating of homes in every price class, the low-cost operation and high-comfort level of Tru-Perimeter Webster Baseboard Heating are important sales factors. Send for folder, "Wonderful Webster Baseboard Heating".

Address Dept. BW-2

WARREN WEBSTER & CO.
Camden 5, N.J. Representatives in Principal Cities
In Canada, Darling Brothers, Limited, Montreal

Webster
TRU-PERIMETER FORCED HOT WATER
BASEBOARD HEATING

AND

Webster Heating Equipment includes Webster Walvector also used in Tru-Perimeter Heating; Convectors; Steam Heating Specialties for heating and process applications; Webster Boiler Protectors; Webster Moderator Systems of Steam Heating and continuous flow controls for hot water heating; Unit Heaters. Data on request.

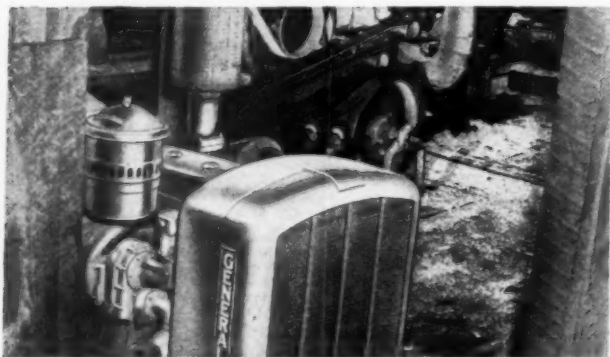
The switch is to Diesel T



CONSTRUCTION...WORKS $\frac{1}{3}$ FASTER—CUT FUEL COSTS 60%

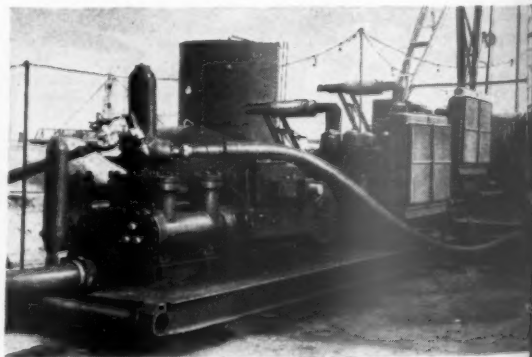
... since he *switched* from gasoline to GM Diesel power. And contractor Charles F. Knox reports he also cut maintenance

costs. His business is building—and he's building his business with General Motors 2-cycle Diesel power.



LUMBERING...PLANES FASTER— PRODUCTION UP 25%

... since Meriwether Lumber Company *switched* this planing mill from a 4-cycle Diesel to a faster-accelerating General Motors 2-cycle Diesel. Quicker response to changing loads means faster planing, saves $1\frac{1}{2}$ hours crew time per day.



PETROLEUM...CUT FUEL COST MAKES HOLE 33% FASTER

... since he *switched* from gas engines to GM Diesel power. And rig owner Dan Kornfeld reports he's drilled 24,000 hours without overhauling his General Motors Diesel engines. He says, "You can't beat GM Diesel performance."

FISHING

... since he
2-cycle Dies
per season
in about th

The choice is



If your gasoline engine burns as much as \$1,000 worth of fuel a year, switch to General Motors Diesel power—you can pay for a Model 43301 4-cylinder GM Diesel in fuel savings alone in just three years.*

Add savings on maintenance and repair and you can see why more and more operators in every field are specifying GM Diesel power in the equipment they buy.

But the best thing about a GM Diesel is that it does more work faster. Its 2-cycle operation gives power at every piston downstroke

for quicker acceleration, added smoothness, instant response to throttle controls. And a small, compact GM Diesel fits where other Diesels won't—gives you Diesel brawn without the bulk.

You can specify General Motors Diesel power in more than 750 different models of equipment built by over 150 manufacturers. Write direct for the list or get it from your local GM Diesel distributor and have him show you the savings you'll make with GM Diesel power in your equipment.

*Based on 14¢ Diesel fuel and 23¢ gasoline.

DETROIT DIESEL ENGINE DIVISION

GENERAL MOTORS • DETROIT 28, MICHIGAN

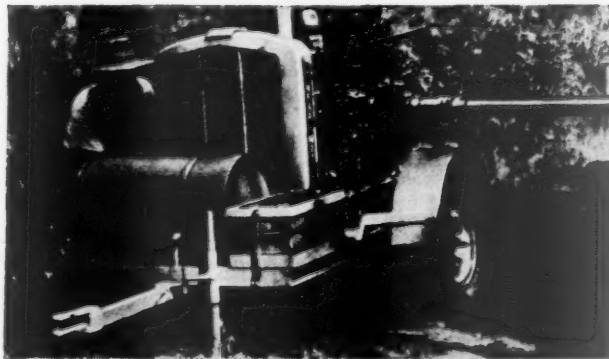
Single Engines . . . 30 to 300 H.P. • Multiple Units . . . Up to 893 H.P.

In Canada: GENERAL MOTORS DIESEL, LTD., London, Ontario



FISHING... TROLLS 25% FASTER— HAULS MORE PAY LOAD

... since he switched from a 4-cycle Diesel to a General Motors 2-cycle Diesel. Faster speed means an extra trip—more income per season for this fisherman. His compact GM Diesel fits in about the same space, yet gives him far more power.



FARMING... GETS AN EXTRA CROP PER SEASON

... with a General Motors Diesel powering an irrigation pump. This farmer checked operating costs on all kinds of power—and picked GM Diesel for lowest-cost operation. His business is farming—and he's making it grow with GM Diesel.

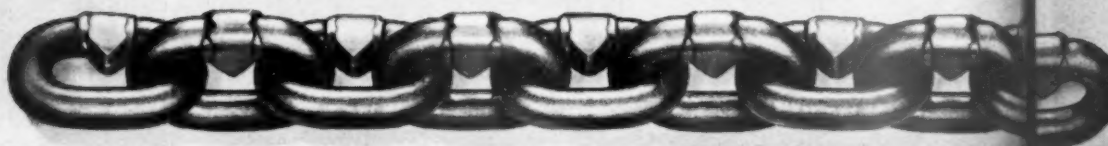
ACCO
products

Announcing ACCO's Great New Chain

ACCOLOY X-WELD 125

The sensational new ACCOLOY X-WELD 125 CHAIN represents the greatest improvement in chain since electric welding! It has hitherto-undreamed-of welding strength, chain stamina and long life. And—it is versatile almost beyond belief.

This chain *won't* kink; it hangs straight as a die—always! Every link is perfectly formed. In hundreds of destructive tests—straight pull and sharp bending—not a single break at the weld has occurred.



The secret is in the weld

The single Accoloy X-Weld 125 link shown at the right was ground and etched to show the big welded area—2¼ times the area obtained by normal welding methods. This exclusive X-Weld feature gives more than double security at the weld!



Now—cut your chain costs

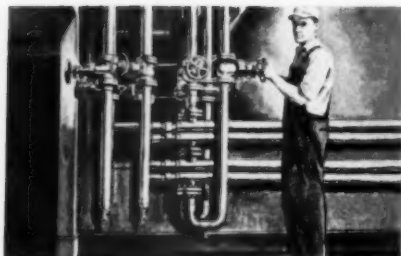
There's real economy in using Accoloy X-Weld 125 Chain for slings, bundling, towing, and general utility chains. It is available in five sizes (¼" to ¾"), and in special analyses and heat treatments for specific jobs. Its high strength-size ratio, its resistance to wear, and its unique trouble-free performance characteristics add up to long-range savings—and better value!



American Chain & Cable Company, Inc.

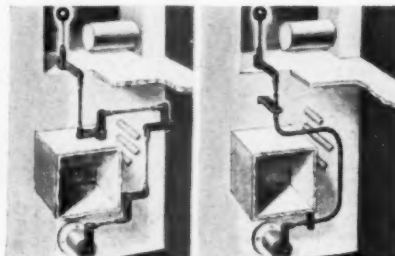
SALES OFFICES IN: Atlanta, Bridgeport, Conn., Boston, Chicago, Denver, Detroit, Exeter, Pa., Houston, Los Angeles, Monessen, Pa., New York, Philadelphia, Pittsburgh, Portland, Ore., Reading, Pa., San Francisco, Wichita, Kans., Wilkes-Barre, Pa., York, Pa.

ACCO OFFERS BETTER VALUES IN THE PRODUCTS SHOWN BELOW AND LISTED AT THE RIGHT



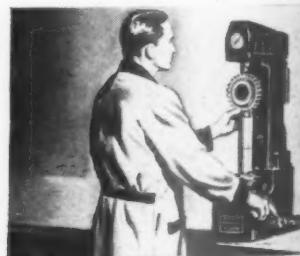
R-P&C VALVES

Satisfied users say R-P & C also stands for Reliable Protection & Control. Bronze, iron, steel and bar stock valves.



TRU-LAY PUSH-PULLS

They simplify design and improve operation by eliminating links and levers. Solid as a rod, yet flexible as wire rope.

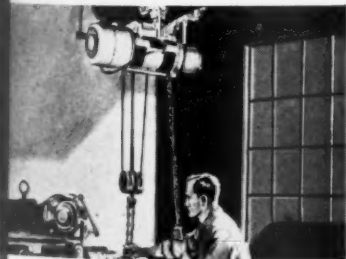


WILSON "ROCKWELL"

For exact checking of hardness, WILSON "Rockwell" Testers have no equal.

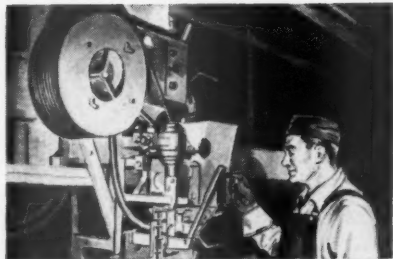
The
duty
easy

n



WRIGHT HOISTS

The WRIGHT *Speedway* is a heavy-duty work horse, and is the easiest hoist to service.



PAGE WELDING WIRE

PAGE offers most popular grades and sizes of welding wire, in a variety of convenient packages, from local distributors' stocks.

BETTER VALUES

— Key to Better Business

The first step toward giving better values is to insure the quality, durability and usefulness of your products. This is made possible by getting better values in the materials, components, machines and equipment used in their manufacture.

AMERICAN CHAIN DIVISION
Weed Tire Chains • Welded and Weldless Chain
Acco Registered Sling Chains

AMERICAN CABLE DIVISION
Tru-Lay Preformed Wire Rope, Tru-Loc Assemblies
AUTOMOTIVE and AIRCRAFT DIVISION
Aircraft Cable, Controls, Fittings
Tru-Stop Brakes for trucks and buses

ACCO CASTING DIVISION
Electric Steel and Malleable Iron Castings
CAMPBELL MACHINE DIVISION
Wet Abrasive Cutting Machines • Nibbling Machines

FORD CHAIN BLOCK DIVISION
Chain Blocks • Electric Hoists, Trolleys

HAZARD WIRE ROPE DIVISION
Lay-Set Preformed Wire Rope
Acco Registered Wire Rope Slings

HELICOID GAGE DIVISION
Pressure, Vacuum or Compound Gages

MANLEY DIVISION
Automotive Equipment for garages and service stations
OWEN SILENT SPRING DIVISION
Owen Springs and Units for mattresses and furniture

PAGE STEEL and WIRE DIVISION
Welding Wire, Shaped Wire, Manufacturers' Wire,
Chain Link Fence

PENNSYLVANIA LAWN MOWER DIV.
Power and Hand Lawn Mowers

R-P & C VALVE DIVISION
Bronze, Iron & Cast Steel Valves • Steel Fittings

WILSON MECHANICAL INSTRUMENT DIVISION
"Rockwell" Hardness Testers

WRIGHT HOIST DIVISION
Wright Chain Hoists, Electric Hoists, Cranes

THE ALLISON COMPANY
Rubber and Resinoid Bonded Abrasive Wheels

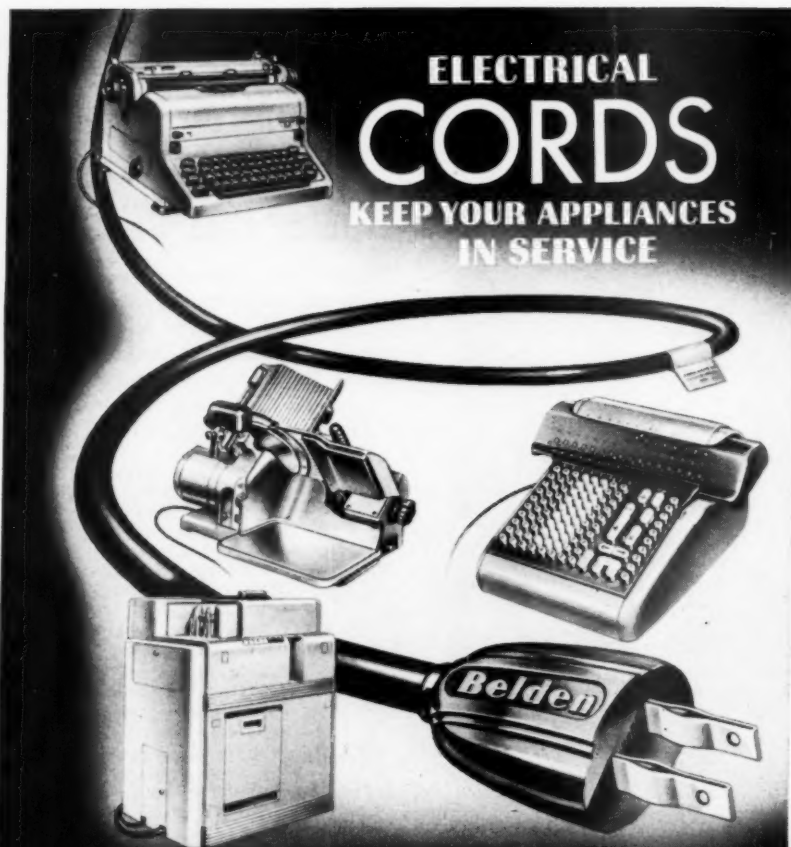
THE BRISTOL COMPANY
Automatic Control, Recording, Indicating and
Telemetering Instruments, Socket Screws

THE MARYLAND BOLT and NUT CO.
Bolts and Nuts • Lag Screws and Forgings

IN CANADA: DOMINION CHAIN COMPANY, LIMITED
IN ENGLAND: BRITISH WIRE PRODUCTS, LIMITED
THE PARSONS CHAIN COMPANY, LIMITED

INFORMATION on any ACCO product
gladly sent on request. Address your in-
quiry to Market Development Depart-
ment, American Chain & Cable Com-
pany, Inc., 929 Connecticut Avenue,
Bridgeport, Connecticut.

Better
Values



The purchase price represents only the starting point in figuring the over-all costs of electrical cords.

Add to that; receiving inspection costs—assembly costs—line inspection costs—and the costs of failures in service. The total is the real cost of cords.

If you think in terms of *actual* over-all profit—it will pay you to do business with Belden.

Save Time, Save Money

Specify Belden

Belden Manufacturing Co.
4689-A W. Van Buren St., Chicago 44, Ill.

MANUFACTURERS WHOSE PRODUCTS SERVE BEST...

Specify **Belden**
WIREMAKER FOR INDUSTRY

READERS REPORT

Fuller Explanation Dept.

Dear Sir:

For many years I have heard people complaining that there were not enough hours in the day . . . days in the week . . . weeks in the year, and no one has done anything about it except complain. It is apparent to me now that someone has done something about it . . . you.

This statement comes as a result of very carefully looking over the index of business activity as you publish it, which . . . incidentally, I note with great care each week so that I may make comparisons between what general business is doing and what we are doing in our own business. For 1955 you have shown, believe it or not, 53 weeks. If you don't believe it, count them yourself.

A lot of questions arise mainly as to whether you and I will get paid for 53 weeks this year, whether we will all get an extra week's vacation, or just how the darn thing will work out. I don't think you should stop now . . . but . . . make some suggestions as to how it can be used.

Maybe your trouble was in putting five weeks in June of 1955 when you had only four in 1954. Whatever the explanation . . . I salute you as the person who at long last has really done something about this question of too few weeks in the year.

CHESTER C. CONNER
ASSISTANT SECRETARY
ALUMINUM CO. OF AMERICA
PITTSBURGH, PA.

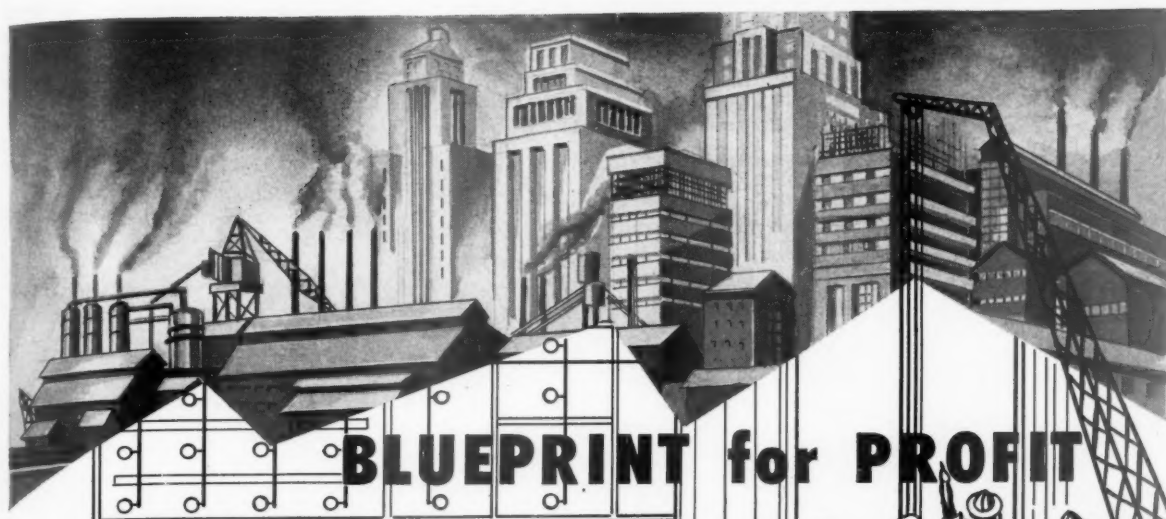
• The BUSINESS WEEK index is always for the week ending on a Saturday, and as there are 53 Saturdays in 1955 we decided to show January 1 as the first figure for '55 even though it is actually part of the index for '54. As for the five weeks in June, strictly there are four, but July 2nd would be plotted as end of June, showing four weeks in July instead of five.

And just to show Reader Conner that there is some consistency to what we did, we are scheduled to publish 53 weekly issues of BUSINESS WEEK this year.

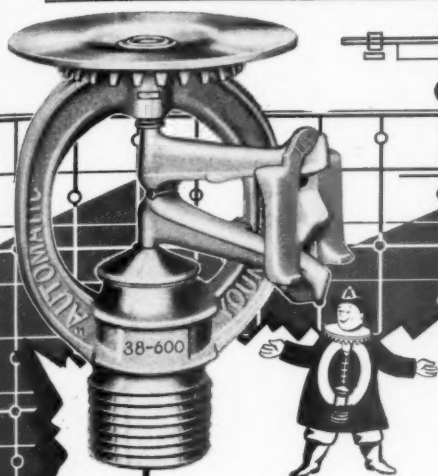
Dear Sir:

I should appreciate clarification of the following questions re . . . the article on Defense Business [BW—Dec.25'54,p17]. . .

Referring to the chart on top of



BLUEPRINT for PROFIT



Approving fire protection installation plans and investment analyses is serious business—a decision that can have direct bearing on the profit margin of a business.

That's why "Automatic" Sprinkler works closely with its customers and their architects, engineers and insurance counsellors on the development of a fire safety program, custom-engineered to specific needs.

A standard "Automatic" Sprinkler system may be required, or conditions may dictate design of an entirely new method of fire control and extinguishment for unusual or severe hazards. In any event, "Automatic" Sprinkler protection represents the last word in engineering technique . . . the finest of manufactured components, and the highest standards of installation craftsmanship.

*"Automatic"
Sprinkler*

CORPORATION OF AMERICA
YOUNGSTOWN, OHIO

Better BLUEPRINT your
PROFITS of tomorrow, by
investigating ENGINEERED
"Automatic" Sprinkler
PROTECTION — today!

Offices in Principal Cities of North and South America



TWO BIRDS WITH ONE STONE!

Here's a matchless opportunity to combine business and pleasure ... to check Miami's golden business opportunities...to bask out winter blues in Miami's golden Sunshine.

MIAMI INDUSTRIAL EXPOSITION

Hundreds of exhibits of made-in-Miami products ... ample proof to buyers, manufacturers and investors that light industry thrives in Miami's ideal working and living conditions.

MARCH 4 thru 13

FABULOUS FUN-IN-THE-SUN

In Miami, you're at the heart, the hub... the exact center of all that's gay and beautiful... with a big city's full range of accommodations... and the most favorable rates in the entire area! So come on down...

YOU OWE YOURSELF THIS BREAK!

MIAMI



WRITE FOR NEW INDUSTRIAL BROCHURE AND ECONOMIC STUDY

ADDRESS: Industrial Research Division, City of Miami
320 N.E. Fifth Street, Miami, Florida

page 17... and to the term "spending," obviously, the figures against which the "red" curve is plotted represent the actual dollar amount aggregate of all new orders placed during each respective calendar year with the provision, of course, that only contracts over \$10,000 are included. What does the "black" curve identified as "spending" include?

The reason that I have trouble understanding this graph is that I would expect the figures for "spending" and "new contract lending" to come very close together by 1958. However, as the curves are presented there is a gap of almost 40% based on new contracts. ...

R. ULRICH

VICE-PRESIDENT
BACHARACH INDUSTRIAL INSTRUMENT CO.
PITTSBURGH, PA.

• Spending includes pay and allowances for personnel, whereas contracts do not.

A New Equation

Dear Sir:

D. C. Hooper, manager of our Market Planning group, and W. B. Stewart, one of his assistants, were delighted to see the BUSINESS WEEK story, New Way to Gauge Production, on page 89 of the Jan. 15 issue. They've been using the same two elements that Prof. Ernst uses—manhours and kilowatt-hours—for a period of time now... in their forecasting work. ...

While the equation as originally developed by Hooper-Stewart was fitted to the 1947 to 1952 data, it subsequently proved accurate to 1¼% on monthly indexes for the past two years. Likewise the equation has been found to fit data that extends back into the 1920s.

The real contribution, according to Hooper and Stewart, that Prof. Ernst has made is that he is getting geographic breakdown by industries. They each fervently hope the Federal Reserve Board will take the cue and make such data available for other important geographical areas in the nation. If this is done, the benefit to market planners will be tremendous. ...

H. C. McDANIEL
MANAGER, TECHNICAL INFORMATION
WESTINGHOUSE ELECTRIC CORP.
PITTSBURGH, PA.

Not All Delinquents

Dear Sir:

Allow me to compliment you on

What's this? Blackjack... at \$1⁷¹ an hour?



Should these men be fired? Absolutely not. They reported on time. But the work hadn't reached their department yet.

Next week the same department may need a second shift. And once again management may not know till too late.

Costly production mixups like this can be effectively forestalled with Keysort punched-card accounting. In this case, a *weekly* Keysort work-load summary would have shown which departments had a light work-week ahead...and which ones were due to be overloaded. Thus

necessary transfers, layoffs, extra shifts could have been ordered *on time*.

A McBee Keysort installation can give you comprehensive, accurate reports on every phase of factory operation, and give them to you *fast*. Complete figures reach your desk by the 4th of the month. Important interim figures come to you each Monday, or even daily. Whether you run a 100-man branch plant or a manufacturing giant. And at very low cost.

The trained McBee man near you can show you how it's done. Or write us.

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Punched-card accounting for any business

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PLANNED industrial tracts



NASHVILLE, TENNESSEE

Just four miles south of downtown Nashville, Tennessee... yet beyond the city limits... is an area of 186 acres carefully designed for industry. Located immediately adjacent to the new, modern, \$15,000,000 Radnor freight yards of the Nashville, Chattanooga & St. Louis Railway and the Louisville & Nashville Railroad, the Suburban Industrial district is within the Nashville switching district, and it provides these all-inclusive features for efficient operation.

The following firms have already moved into this planned industrial area:

- American & Southern Corp.
- Bond-Sanders Paper Co.
(subsidiary of Champion Paper & Fibre Co.)
- Kraft Foods Co.
- Wurzburg Brothers, Inc.
- Sears, Roebuck & Co.

- ★ Graded building sites
- ★ Rail spur connections
- ★ Rail sidings
- ★ Direct lead track from yards
- ★ Street right-of-ways
- ★ Off-street parking
- ★ Uniform set back lines
- ★ Paved access roads
- ★ Nearby truck terminals
- ★ Sewers
- ★ Water
- ★ Natural gas
- ★ TVA electric power
- ★ Zoned Industrial A

The district is on a double-lane east-west highway with access to all main highway routes. It is six and a half miles from the airport, and several new residential sections are nearby. The area is amply restricted, and elevation is 545 feet.

Now you can select your industrial site, and get every basic requirement in one package... alongside the most modern freight yards in America, where fast, efficient rail operation is completely automatic.

For specific data on this or other sites in the Central South, write:

G. G. Barbee, General Industrial Agent
The Nashville, Chattanooga & St. Louis Railway
203-A Union Station
Nashville, Tennessee

Get your free copy of "The Central South—Where Industry Goes... to Work." This colorful brochure tells why more and more industries are relocating or building branches in the Central South.



THE NASHVILLE, CHATTANOOGA & ST. LOUIS RAILWAY

the clear and thoughtful analysis of juvenile delinquency in your Personal Business section [BW—Jan. 15'55,p155].

A great deal of confusion exists on this particular subject, much of it the result of ignorance and inaction. We are all, naturally, prone to seek a solution to this very important problem by unearthing its causes and dealing with them. As you state, it's not that obvious.

In our work with youngsters, fixing their role in the national economy, we have noted a rising tempo of indignation on their part over the all-encompassing nature of the term "juvenile delinquent." It is really a difficult thing to live with because many parents regard their children as potential delinquents. Quite naturally, the youngsters resent this thinking, which results in restrictions being placed upon their activities.

I would like to point out... that the sharp rise in juvenile delinquency occurs at a time when the positive accomplishments of youth are at an all time peak. They have ingenious hobbies, earn a lot of their own spending money, an unusual number have their own businesses, are amazingly well informed, are thoughtful about their future, save more money than ever before, help out more around the home, shop for the family and are all in all a definite credit to the community....

LESTER RAND

THE RAND YOUTH POLL
YOUTH RESEARCH INSTITUTE
NEW YORK, N. Y.

On Firm Ground

Dear Sir:

I have read with special interest your article, Venezuela: Trying to Hitch a Nation to an Oil Boom [BW—Dec.18'54,p130]....

May I say... that the solutions attempted by the Venezuelan government relate to problems that are strictly Venezuelan. Such solutions could not, therefore, find application in other countries. This refers both to the political and... economic field. A very successful effort has also been made to compromise between realities and the idealism of a people... anxious to find reassertion after years of neglect, and to improve radically their social position and living standards.

The practical achievements of the present administration over such a short time prove that the objectives sought are being amply fulfilled. This is evidenced by the gigantic public works program to

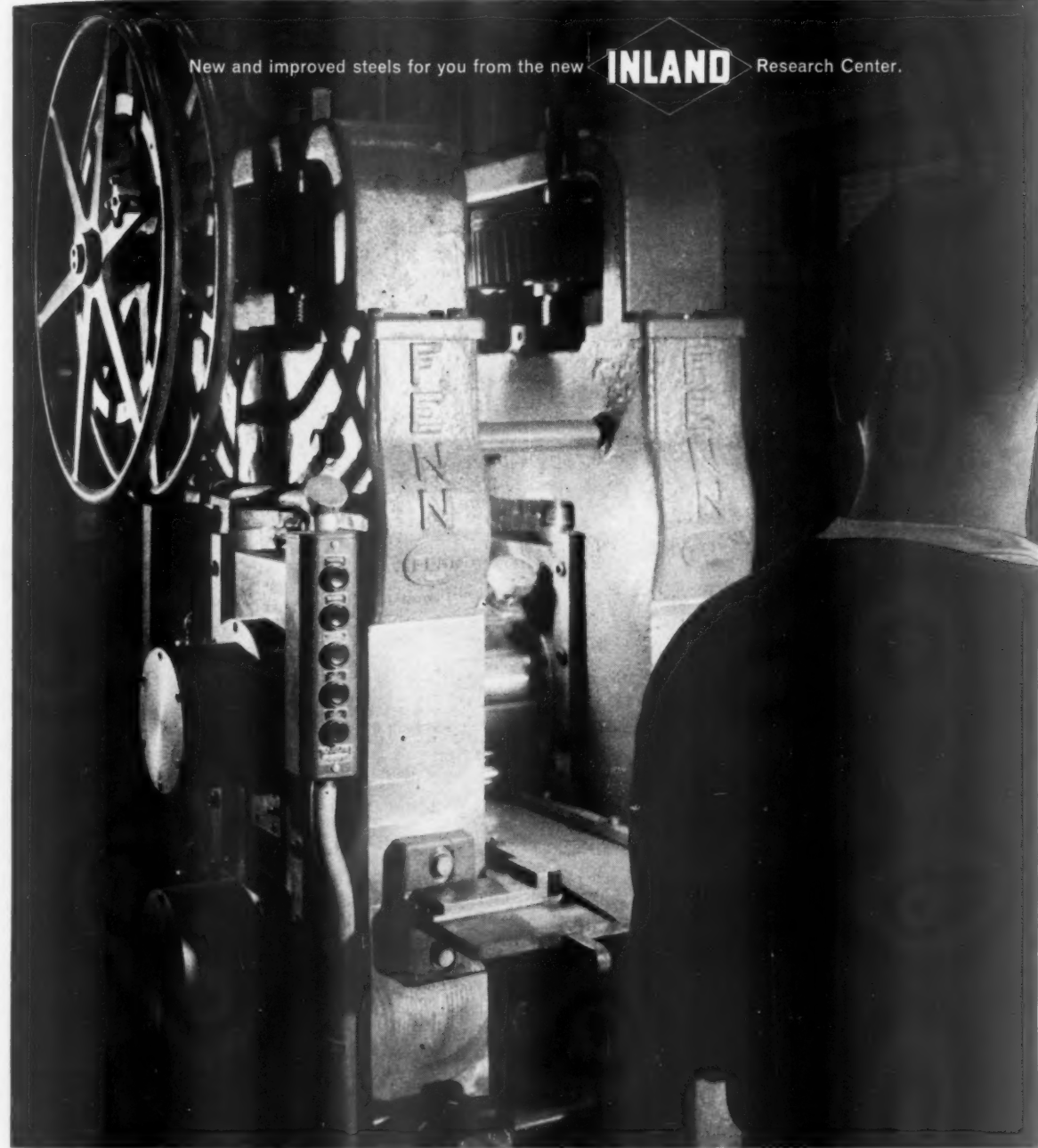
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New and improved steels for you from the new

INLAND

Research Center.



THIS PINT-SIZE ROLLING MILL MAY SAVE YOU KING-SIZE HEADACHES (AND MONEY TOO!)

At Inland, "new ideas" are considered as vital a raw material in steel-making as top grade iron ore and coal. Establishing reserves of this basic ingredient is a continuing job for Inland's research and development people. The new Inland Research Center in Hammond, Indiana, where Inland researchers look for better steels and more efficient ways to make them, is the most recent addition to Inland's "new idea" resources.

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Shapes • Plates • Bars • Tin Mill Products • Rails
and Track Accessories • Coal Chemicals



Forming the above Special Pan Head Bolt in two blows presented a difficult cold heading problem that was solved by the use of Keystone "Special Processed" Cold Heading Wire.

The superior grain flow characteristics of "Special Processed" Wire provided the necessary upsetting and die forming qualities to withstand the terrific displacement of metal during the two blow process. The head was formed without buckling, distortion or cracking—longer die life, increased production, and a higher quality finished product resulted.

Carefully selected ingredients—our own exclusive drawing and heat treating process—rigid quality controls and inspections—give this wire unsurpassed performance on any unusually difficult cold heading job. Your inquiry is welcomed.



which you . . . refer. . . . This program is not limited to Caracas, as you seem to imply, and while progress for the casual visitor is certainly more obvious in the capital and surrounding territory, the truth is that schools, housing projects, hospitals and roads are being built in increasing numbers in the most distant outposts of the country, not to mention equally important agricultural, electrification, and navigation projects already in execution.

. . . Further . . . what is being done in Venezuela, both officially and by private enterprise, is the result of a systematically-planned economic development that has acquired momentum in the last few years, and is finally being channeled to produce the most good for the most people. We are not, therefore, hitching our future to a boom. We are working on very solid ground, and the fact that foreign investments reach now the staggering sum of \$3-billion and continue to increase every day bears witness to the faith foreign capital has in our resources, in our institutions . . . in the integrity and character of our leaders and of the Venezuelan people. . . .

You . . . failed to mention a very significant and important question, namely, . . . that notwithstanding the heavy official expenditures in public works, the federal budget has been showing a sizable surplus. This surplus reached nearly \$100-million at the end of the last fiscal year. Since you . . . apparently did not care to investigate the inner workings of our public works financing system, you make a rather rash statement when . . . questioning by implication the cash position of the government.

The magnitude of what is being done in Venezuela, where we have a population of only 5-million . . . could perhaps be better encompassed by the American reader if he realized that should his government attempt something similar, commensurate with the population and wealth of the United States, federal works—roads, housing projects, schools, hospitals—worth \$160-billion would be finished and dedicated every year. . . . I am sure that American taxpayers, who would benefit by such a program, would be indulgent if some isolated mistakes were made in such a gigantic undertaking, for Americans, "being as human as the next fellow," would also excusably err here and there.

DELFIN ENRIQUE PAEZ
CONSUL GENERAL DE VENEZUELA
NEW YORK, N. Y.

Dolly would drool... at ice cream like this!



Dolly Madison, credited with introducing ice cream to Washington Society, would really have amazed the White House set . . . if she served ice cream as good as you buy at the corner store!

Atlas food emulsifiers are one of the important reasons why ice cream is better than ever today. It tastes better, because Atlas emulsifiers give it a smooth, rich texture. And it looks better, for these new ingredients make it stay firm and dry in a dish or cone.

A pioneer in the fast-growing science of food chemistry, Atlas helps to make many foods more taste-appealing to the customer . . . more sales-worthy for the manufacturer. Scores of products you buy for home, farm or factory owe new, added values to Atlas products. Would you like to talk over some "ideas in chemistry?" Atlas Powder Company, Wilmington 99, Delaware.



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PAEZ
ELA

1955

SOUND CONDITIONING



No office clatter here. Travertone assures quiet in this large office area, even during the peak of the day's activity. Travertone's smooth white surface reflects light evenly and is easy to clean and repaint.

Footsteps, voices muffled. Sounds that bounce off the floor, stairs, and walls are immediately absorbed by the Travertone ceiling before they build up into racket. Travertone can be fitted to almost any ceiling angle, such as the one over this sloped stairway.



Makes good first impression. Both quiet and beauty greet visitors. The Travertone ceiling eliminates annoying echoes, and its attractively fissured surface blends well with surrounding terrazzo, marble, and glass.

Fire insurance company finds

Quiet Is the Best Policy

Despite sound-reflecting hard surfaced terrazzo floors, marble walls, and glass partitions in the modern new home of Southern Fire Insurance Company, Durham, North Carolina, a pleasantly quiet atmosphere prevails throughout the entire building.

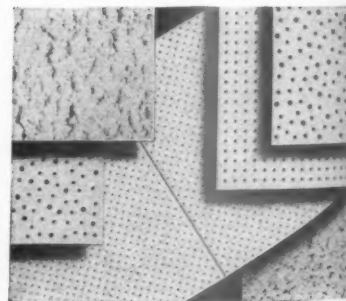
Southern Fire has permanently solved the noise problems of sound reflection by the extensive use of Armstrong Travertone* ceilings. Travertone soaks up the sounds of footsteps, voices, and office equipment before they become noise.

In addition to its high acoustical efficiency, Travertone has another feature that makes it attractive to a fire insurance company. Made of

mineral wool, Travertone is completely incombustible and meets the strictest fire-safety regulations.

Another important factor in Travertone's selection was its distinctive beauty. The irregularly shaped fissures, which serve as noise traps, give Travertone a close resemblance to travertine marble.

For further details on Travertone, and the complete line of Armstrong sound-conditioning materials, contact your Armstrong acoustical contractor. He'll be glad to give you a job estimate, without obligation. For the free booklet, "Armstrong Acoustical Materials," write Armstrong Cork Company, 4202 Indian Road, Lancaster, Pennsylvania.



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* Trade-Mark

BUSINESS OUTLOOK

BUSINESS WEEK
FEB. 12, 1955



Businessmen are entitled to feel confused in a week like this—but it's a type of confusion calculated to encourage a little addition to inventories (particularly metals and things made of metal).

Today's inventory problem has many sides. Uncertainties abroad (page 25) are the highlights, of course, but they aren't the whole story.

Who's on top in Moscow may be as elusive as who's on third base in Brooklyn.

Tensions with China have in no way abated.

At home, industry is beset by the chance of disrupting strikes.

Finally, metals fabricators have to carry more inventory than last year. Accounting for more than a quarter of manufacturing activity, their operations are now 6% to 7% higher than last spring.

Tensions abroad were felt acutely in the already tight copper situation. Prices bounced in London on Tuesday and Wednesday.

Markets for industrial raw materials (including copper) were calmer in this country, but breathlessness was apparent nonetheless.

Stocking up—on any material, at any level of manufacturing or distribution—is bound to have its effects on the business curve.

- Short run, it raises orders and output in a stimulating way.
- Longer term, it could make trouble. If international strains should ease or strikes fail to come off, a lot of people would find themselves with stuff on their hands for which they had no immediate need.

Thus you see the possibility of an unnatural, saw-toothed kind of bump on the pattern of recovery (and, perhaps, of prices).

Steel mills have no way of measuring the amount of incoming business that goes into rebuilding customers' inventories. But this much they do know: Demand for steel goes right on rising.

Iron Age declares this week that operations will be close to 95% "sometime in March or early April." (The rate currently is 87½% of capacity; last March and April, it was a bit less than 70%.)

Demand is spreading into products heretofore lagging. Just to cap things, European inquiry for several types of steel is growing.

Construction is starting this year with eye-popping figures.

The value of work put in place on all types of projects was the highest for any January. Moreover, it was down less than usual from December, with the Dept. of Commerce computing the seasonally adjusted annual rate at approximately \$40-billion, a new record.

This year's boom in construction looks all the more spectacular when stacked up against the relatively sluggish showing early in 1954.

Total value in January was up 13%. Public works simply held even with a year ago, with private building ahead by 18½%. By contrast, 1954's first quarter posted a year-to-year gain of only 1½%.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

FEB. 12, 1955

Home building contributed \$1-billion to the value of January construction—more than a third of the \$2.8-billion total. Moreover, it was a whopping gainer, running more than 30% ahead of last year.

Construction will have to go some to maintain its rate of gain for, later in 1955, it will be competing with 1954's rising curve.

Advance indications, though, are decidedly hopeful.

Awards in January for future construction, particularly in the residential category, continued to smash records.

F. W. Dodge Corp. lists home awards in the 37 states east of the Rockies 49% ahead of a year ago.

The entire gain, incidentally, is in single-family dwellings; two-family and multiple-unit awards fell off.

Bond sales by states and municipalities—a good indication of their construction plans—swelled in volume last month.

Such financing in January totaled \$527-million, according to the Daily Bond Buyer. That was \$128-million or 32% ahead of the year before.

—•—

Poorest recovery indicator so far is factory employment. By the same token, it's one that may be expected to perk up.

Jobs in manufacturing fell 200,000 from December to January.

This, in itself, isn't surprising; there usually is a decline at this time of year. But total factory jobs, at 15.9-million last month, were nearly 1½-million below the high mark for 1953 and approximately 400,000 under the level of a year earlier.

Here's what you can expect, in jobs and purchasing power, even if factory hiring is no greater than seasonal in the next few months:

The number of workers will rise by just about half a million. This will add nearly \$40-million a week to factory payrolls.

At an annual rate, that would boost purchasing power \$2-billion.

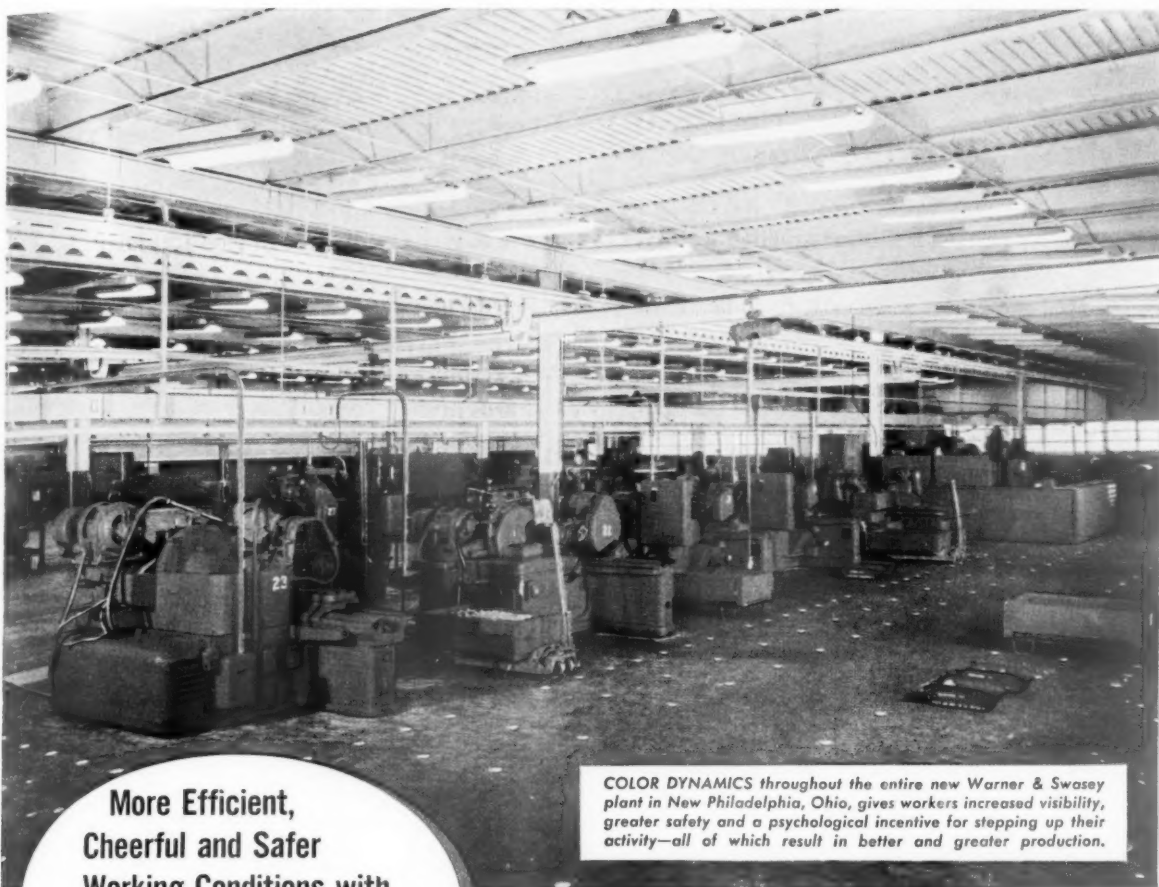
Employers outside manufacturing have been providing the new jobs.

Eliminate jobs on farms (about the same as a year ago) and in factories, and you'll find other industries hiring about 800,000 more workers than they did at this time last year.

Unemployment rose less between December and January than often is the case. Nevertheless, it is a little higher than a year ago.

The official figures list the jobless at 3.3-million. That was up 500,000 from December and about 200,000 over January of 1954.

But here's the hopeful aspect: Unemployment kept on rising in February and March last year, reaching a high of 3.7-million. The February-March rise this year, if there is one, will be much smaller.



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Working Conditions with...

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COLOR DYNAMICS®

Functional use of
colors lessens eye fatigue,
improves productivity,
boosts morale and
reduces accident hazards
in new \$3,000,000
Warner & Swasey plant.

COLOR DYNAMICS throughout the entire new Warner & Swasey plant in New Philadelphia, Ohio, gives workers increased visibility, greater safety and a psychological incentive for stepping up their activity—all of which result in better and greater production.

● An excellent example of the plant environment which Pittsburgh COLOR DYNAMICS provides is the new \$3,000,000 plant of The Warner & Swasey Company recently opened in New Philadelphia, Ohio.

● In this new plant Warner & Swasey manufactures parts for turret lathes, automatic screw and tapping machines, textile machinery and grading equipment. The entire structure was painted according to COLOR DYNAMICS.

● The reasons for the choice of COLOR DYNAMICS are best expressed by Walter K. Bailey, vice-president in charge of manufacturing:

● "We chose to use color functionally in order to create an environment that would be pleasing, cheerful and, at the

same time, improve the productivity of our operators. We selected colors that would increase visibility without causing eye fatigue.

● "We also painted recreation and rest areas in colors that would provide a welcome change of pace and return the workers to their jobs feeling alert and refreshed.

● "Above all, we wanted to create a work place of which the entire community could be proud. How well we succeeded is best shown by the enthusiastic comments when we held 'open house' at the time of our opening. This was further confirmed by the flood of applications from men who wanted to work in these surroundings. From every standpoint, we believe COLOR DYNAMICS is an investment that will pay off for years to come."

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● Why not test the practical value of COLOR DYNAMICS in your plant—on a machine or two or in a whole department? Send for our free book which explains how you can use this modern painting system simply and easily.

● Better still, call your nearest Pittsburgh Plate Glass Company branch and ask to have a representative give you a detailed color engineering study of your plant, or any part of it, without cost or obligation. Or mail coupon at right.

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**it's always fair weather
5 FEET DOWN!**

Nothing stops natural gas!

Five feet below the earth it travels, steadily, surely, along the 2200-mile steel "highway" of the nation's longest pipeline, Tennessee Gas.

Here the weather is always fair. No storm, no traffic snarl or congestion, no shortage of rolling stock. Even in war, enemy attacks at sea cannot halt the progress of the world's finest fuel on its way to market.

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HOUSTON, TEXAS

AMERICA'S LEADING TRANSPORTER OF NATURAL GAS



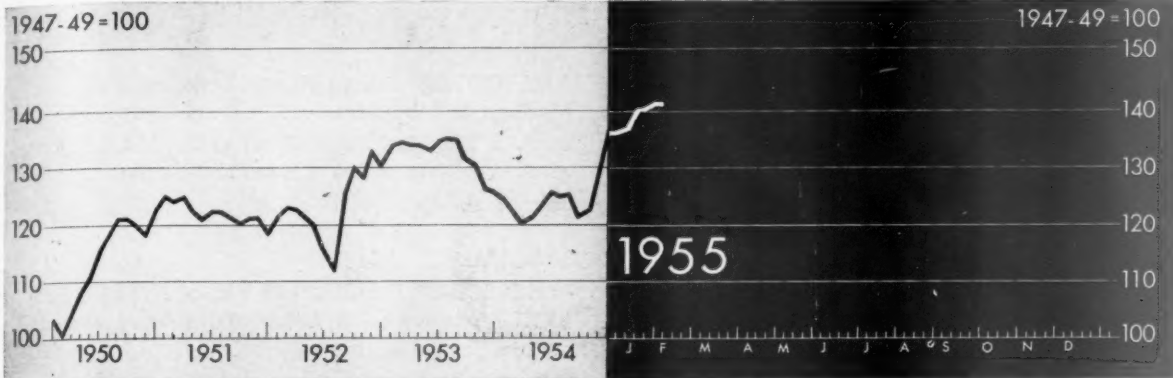
More Homes Heat with Gas. Over 14 million homes now heated with natural gas . . . and every year adds a million more.



Nothing equals natural gas for precise heat control. Economical, dependable, its use in industry is steadily increasing.



FIGURES OF THE WEEK



Business Week Index (above) *141.3 †141.4 136.0 123.2 91.6

PRODUCTION

Steel ingot production (thousands of tons).....	2,110	12,070	2,007	1,774	1,281
Production of automobiles and trucks.....	190,091	†190,468	177,877	139,042	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)....	\$45,601	\$48,343	\$60,014	\$30,658	\$17,083
Electric power output (millions of kilowatt-hours).....	10,047	10,003	9,833	8,674	4,238
Crude oil and condensate production (daily av., thousands of bbls.).....	6,721	6,677	6,574	6,271	4,751
Bituminous coal production (daily average, thousands of tons).....	1,473	†1,423	1,486	1,401	1,745
Paperboard production (tons).....	259,402	257,931	204,172	228,571	167,269

TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars).....	65	65	61	65	82
Carloadings: raw materials (daily av., thousands of cars).....	42	41	38	39	53
Department store sales (change from same week of preceding year).....	+1%	+10%	-1%	-2%	+30%
Business failures (Dun and Bradstreet, number).....	264	255	198	238	22

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	413.7	417.0	413.2	420.2	311.9
Industrial raw materials, daily index (U. S. BLS, 1947-49 = 100).....	92.9	92.4	90.6	82.3	††73.2
Foodstuffs, daily index (U. S. BLS, 1947-49 = 100).....	90.5	90.9	90.8	97.4	††75.4
Print cloth (spot and nearby, yd.).....	19.0¢	19.2¢	19.2¢	19.8¢	17.5¢
Finished steel, index (U. S. BLS, 1947-49 = 100).....	144.7	144.7	144.6	141.3	††76.4
Scrap steel composite (Iron Age, ton).....	\$35.83	\$35.50	\$34.33	\$26.67	\$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.).....	33.000¢	31.550¢	30.000¢	29.975¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.46	\$2.49	\$2.44	\$2.36	\$1.97
Cotton, daily price (middling, ten designated markets, lb.).....	34.20¢	34.33¢	34.15¢	33.96¢	30.56¢
Wool tops (Boston, lb.).....	\$2.10	\$2.10	\$2.02	\$2.12	\$1.51

FINANCE

90 stocks, price index (Standard & Poor's).....	291.5	289.3	281.8	208.1	135.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.46%	3.46%	3.45%	3.64%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	1½-1¾%	1¾%	1½-1¾%	2%	¾-1%

BANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks.....	57,639	58,716	57,857	55,588	††45,820
Total loans and investments, reporting member banks.....	85,359	85,729	85,824	80,119	††71,916
Commercial and agricultural loans, reporting member banks.....	22,054	†22,074	22,334	22,638	††9,299
U. S. gov't guaranteed obligations held, reporting member banks.....	35,799	36,441	36,573	32,989	††49,879
Total federal reserve credit outstanding.....	25,262	24,728	26,207	25,860	23,883

MONTHLY FIGURES OF THE WEEK

	Latest Month	Preceding Month	Year Ago	1946 Average
Employment (in millions)..... January.....	60.2	60.7	59.8	55.2
Unemployment (in millions)..... January.....	3.3	2.8	3.1	2.3
Personal income (seasonally adjusted, in billions)..... December.....	\$291.1	\$289.3	\$287.0	\$178.0
Farm income (seasonally adjusted, in billions)..... December.....	\$15.0	\$14.7	\$17.4	\$16.9
Manufacturers' inventories (seasonally adjusted, in millions)..... December.....	\$43,835	\$43,811	\$46,722	\$21,238
Wholesalers' inventories (seasonally adjusted, in millions)..... December.....	\$11,508	\$11,712	\$11,689	\$5,489
Retailers' inventories (seasonally adjusted, in millions)..... December.....	\$22,173	\$22,130	\$22,661	\$9,791

* Preliminary, week ended Feb. 5, 1955.

† Revised.

†† Estimate.

§ Date for "Latest Week" on each series on request.

in BUSINESS this WEEK . . .

GENERAL BUSINESS:

A TOUGHER TEAM IN THE KREMLIN. This week's crisis in the Kremlin has revealed weakness, signaled a turn toward Stalin's policies. . . . p. 25

FEBRUARY MADNESS: STARTING A PLANT, LAUNCHING A PROMOTION. Wild antics of GE and Birds Eye are backed by serious intent. . . p. 28

THE DEALERS FIND IT ROUGH. There are no set prices on new cars; it's a trading business. . . p. 30

DU PONT'S PUNCH. Company claims its share of GM stock as U. S. appeals antitrust case. . . p. 31

AIR ROUTES. Pacific flights have been settled; Mexican will be next. . . . p. 32

U. S. SCHOOL AID—VIA STATES ONLY. Congress is split on merits of Eisenhower's plan. . . p. 32

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SPECIAL REPORT:

PROSPECT OF ELECTRICITY FROM ATOMIC FISSION. A progress report on the development of atomic power for industry. . . . p. 100

BUSINESS ABROAD:

ANOTHER OILMAN GOES EAST. Sun Oil will buy Middle East crude; it may cause showdown on national fuel policy. . . . p. 158

DEVELOPING A FOREIGN ECONOMIC POLICY. The Administration's program will affect wide range investment and import-export conditions. . . . p. 164

INFLATION STILL PLAGUES CHILE. Further devaluation of the peso may be required. . . . p. 166

FINANCE:

THE NEW NO. 1 BANK IN GREATER NEW YORK. Chase, by merging with Manhattan, will gain city-wide coverage. . . . p. 116

POINTING TO HIGHER DIVIDENDS. Why buying on stock-split rumors is so popular. . . . p. 130

PENNSY NEXT? A proxy fight may be shaping up for the railroad's annual meeting in May. . . . p. 132

LABOR:

AFL CHIEF ASSAILS MITCHELL. Pres. Meany accuses GOP cabinet member of laxity; it could affect Administration's labor policies. . . p. 136

"SPLIT" IN ILWU. Big Hawaiian local amicably quits Bridges. . . p. 138

GAW AND THE JOBLESS PAY LAW. Auto union thinks management may yield if state funds pay part of cost. . . . p. 142

REDS CORNERED. Left-wing unions get one-two punches from government and rival unions. . . . p. 144

CIO BLITZKRIEG PETERS OUT. Tactics for organizing retail and service workers end with few gains. . . p. 146

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WARD RULING SCARES OTHER BOARDS. Court decision outlawing its staggered elections may have far-reaching effects. . . . p. 80

THE PATTERN: How Big: New Answer, and New Attack. . . . p. 86

NEW TOOLS . . . for managers catch on fast; computers and math dish up data quickly. . . . p. 88

MARKETING:

COKE: NEW FACES, NEW BOTTLES. Coca-Cola is about to undergo its biggest changes in 35 years. . . p. 44

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LOOK WHAT RUBBER PRODUCTS MADE WITH NEOPRENE ARE DOING



FASHION FOR "SKIN" DIVERS is this tight-fitting suit of neoprene sponge. Lightweight, closed-cell neoprene sponge does not absorb water and insulates against cold. Neoprene stays flexible . . . resists salt water, sunlight and weathering. Result: complete freedom of motion and comfort for the diver, long life for the suit.



CAR-WASH MITT—synthetic fiber on the outside and neoprene lined—speeds removal of dirt. Neoprene coating won't crack from flexing . . . remains pliable, easy on the hand. Stands up to oil, grease and perspiration.



NEW HUNTING BOOT has zipper on back for easy pulling on and off, and cellular neoprene soles for comfort. Tiny closed cells throughout the soles cushion the foot, give resilient support. Soles resist oil, abrasion.

Underwater suit of neoprene sponge assures comfort...resists salt water, sunlight

Comfort at five fathoms is as much a matter of dress as it is anywhere. A suit of sponge neoprene, Du Pont's chemical rubber, is a sensible choice. Lightweight neoprene sponge insulates against cold . . . resists deterioration from salt water, sunlight and weathering. This ingenious use of neoprene to create a new and profitable market may suggest ideas how you, too, can use neoprene profitably.

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Our new booklet gives dollars-and-cents examples of how neoprene has brought about product improvements and lower costs. It's a booklet every industrial executive should have. Just clip the coupon below for your copy.

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Firm _____

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**THE
TOUGH JOBS
GO TO
TEXACO**

The new Boeing Model 707 Jet Transport in flight



ALL TEST FLIGHTS

of Boeing's Model 707 — America's first commercial-type jet transport — were powered by Texaco JP-4 Jet Fuel. In back of this triumph of Texaco research in the field of jets lies a long record of Texaco leadership in aviation. For over 20 years, for example, *Texaco Aircraft Engine Oil* has lubricated more scheduled revenue airline miles in the U. S. than any other brand.

BOEING is just one of many fine companies which have achieved top results with Texaco. There are three good reasons for this wide acceptance: *field-proven* Texaco Lubricants, developed with the aid of the finest research facilities available... *field experienced* Texaco Lubrication Engineers to advise on their use... and *fast, efficient service* from over 2,000 Texaco Distributing Plants in all 48 States. This combination can help bring production *up*... and costs *down*... in every major field of industry and transportation. One agreement of sale supplies all your plants wherever located. For details, call the Texaco Distributing Plant nearest you, or write The Texas Company, 135 E. 42nd St., New York 17, N. Y.

TEXACO
INDUSTRIAL LUBRICANTS





NEW PREMIER Nikolai A. Bulganin will act as a lever for the Red Army.



PARTY BOSS Nikita S. Khrushchev will stiffen relaxed internal discipline.



FOREIGN MINISTER Molotov will work with Bulganin on a harder foreign policy.

A Tougher Team in the Kremlin

Moscow this week was the scene of a coup d'état as cool as any in history. It has put the Kremlin under the control of a coalition—Red Army and Communist Party.

The coalition is junking the New Look of deposed Premier Georgi Malenkov. It is turning back to the thinking of Joseph Stalin on both domestic and foreign affairs. The ideas of the two senior partners will affect both the Russian people and the rest of the world:

- **The Red Army** expects to shape a tough foreign policy—one that will, above all, block rearmament of West Germany.

- **The Communist Party** bureaucracy, high and low, is out to maintain the totalitarian system that Stalin took 25 years to build.

- **Crisis**—Cool as the coup was, it didn't lack drama. First Malenkov made a humiliating confession of inadequacy before the Supreme Soviet. This was followed by a second surprise: Marshal Nikolai Bulganin (cover) was appointed Malenkov's successor.

Marshal Georgi Zhukov, World War II hero, was chosen as Minister of Defense to succeed Bulganin. There was a belligerent and boastful speech by Foreign Minister Molotov, who may well have been working hand-in-glove with Red Army leaders to engineer

the coup. And throughout the proceedings, the prominent figure was the hard-hitting, fast-talking First Secy. of the Communist Party, Nikita Khrushchev.

This political crisis produced something new in Soviet affairs—the first direct intervention of army leaders in picking a government. What's more, Zhukov's appointment as Defense Minister means that the civilian contenders



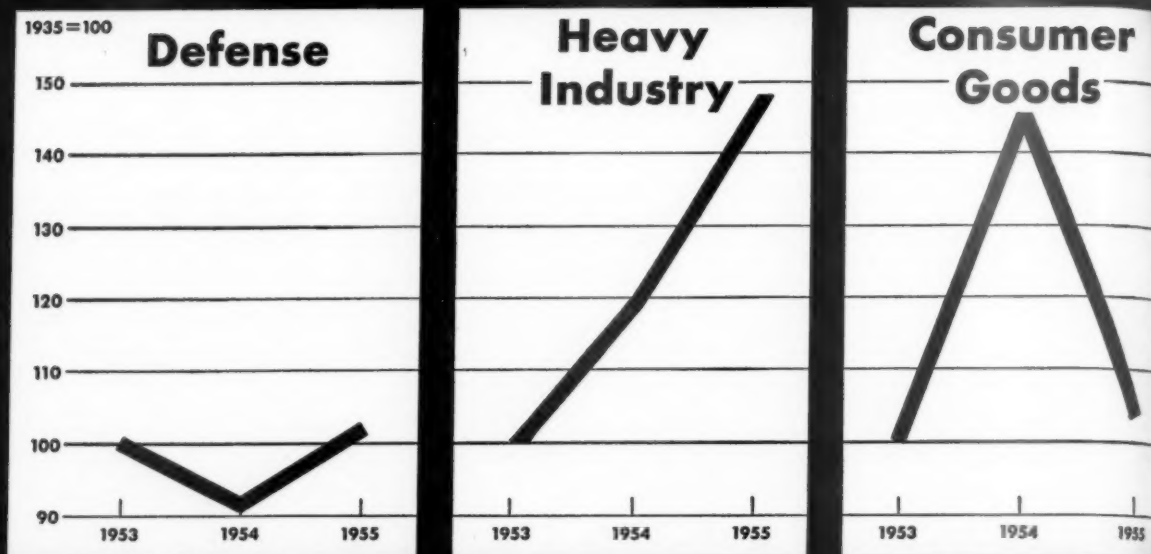
DEPOSED PREMIER Malenkov had favored consumers, let domestic controls slip.

for Stalin's mantle, even Khrushchev, are still far from their goal. To achieve Stalin's strength, Khrushchev would need absolute control over the Red Army, which he obviously doesn't have. The fact that Malenkov is still alive, and is being kept on as a vice-premier and minister of electric power stations, shows that Khrushchev wasn't even strong enough to shove his rival completely out of the picture. Malenkov was in solidly enough with Russia's top industrial bureaucrats to save his skin.

- **Pressures**—Behind these bloodless events lie the same volcanic forces that have kept Russia in a constant state of crisis ever since Stalin's death—the personal power struggle in the Kremlin, the strains of the East-West conflict, and the stresses of a lopsided economy and bankrupt agricultural system.

Stalin was able to hold these pressures in balance when he ran the Kremlin. But they were clearly too hot for the "collective leadership" under Malenkov to handle. And they are almost certain, sooner or later, to get too hot for the men who have just taken top power.

- **Changes**—Meanwhile, the new regime is bound to leave its impact on Russia and on the world. In the U.S.S.R. itself, it will be Khrushchev's stamp that will count, for he



How Soviet Economic Policy has Zigzagged Since Stalin

will dominate domestic affairs. On the world scene, Bulganin and Molotov jointly will play the major role. You can expect changes in domestic policy that won't be welcomed by the Russian people and changes in Soviet tactics abroad that may darken the international atmosphere. The two will go together, much as they did in Stalin's time.

As the new regime tightens the screws at home and moves back to a perpetual state of emergency, it will play more and more on an always handy excuse—the threat from “aggressive circles in the United States.”

I. But No New Stalin

Domestically, the shakeup means new purges, perhaps even a reign of terror. At least as important, it means an end to the hopes of the Russian and satellite people for a better life—something that Malenkov had promised them back in August, 1953. Khrushchev is determined to give priority to defense and heavy industry, just as Stalin did.

Undoubtedly both the Communist Party bureaucracy and the Red Army have demanded a retreat from Malenkov's consumer goods policy. For the bureaucracy, these concessions had become a real threat; they increased popular resistance and started to undermine the central control of economic and political affairs at the local level. The Red Army valued “guns,” especially atomic weapons, more than TV

sets and bicycles; it couldn't see the resources for both.

• **Boss**—It's an open question whether the new regime can get away with such a policy. While still operating under some sort of collective leadership, Bulganin and Khrushchev will be trying to squeeze out of Soviet society what Stalin did when he had complete power. And that would be just about impossible even if Soviet agriculture weren't in such bad shape.

One thing Khrushchev won't be able to do is produce bread by decree. As it is, the changeover is bound to increase hoarding by Russian peasants. Given a bad harvest this year, the Soviet crisis would inevitably grow much sharper—sharp enough, certainly, to test the power of Khrushchev, who managed this week to make Malenkov the scapegoat for his own failures in agriculture.

The fact is that the kind of totalitarian system Stalin set up needs an all-powerful boss. And yet there is very little chance that such a boss will arise out of the post-Stalin setup in Russia.

II. Standoff at Best

Abroad, it looks like the end of moderation in Soviet foreign policy, which has been relatively conciliatory since Malenkov became Premier. Molotov was never more belligerent than in the speech he delivered this week to the Supreme Soviet.

There is not much doubt that he had the approval of Red Army leaders in taking this line. There is evidence that

they have been worried by the growth in Western strength since Stalin died, especially by the imminent prospect of German rearmament. In their eyes, Malenkov's emphasis on peaceful co-existence proved a flop when it came to protecting Russia's security interests.

• **Real Trouble**—At best, then, the Moscow shakeup means a military standoff between East and West. East year's talk of a German settlement looks like wishful thinking now. The same goes for recent talks about atomic disarmament.

At worst, it could mean real trouble over Formosa and perhaps a new Soviet effort to force us out of Berlin. Either would fill the world with fears of World War III.

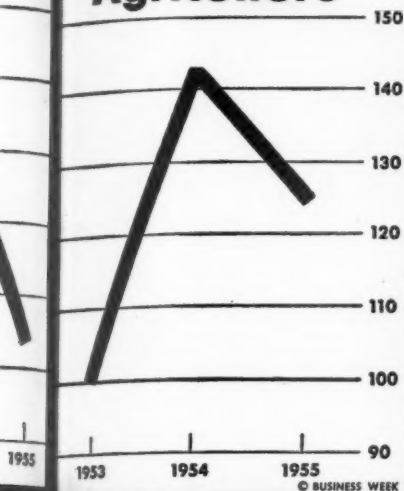
III. Economic Shuffle

There is no doubt about the shift in Soviet economic policy (charts, above). There have been warnings of this for the past month in the Soviet newspaper Pravda. And the available figures from the budget presented to the Supreme Soviet provide confirmation of this. (Though the Soviet budget always hides as much as it reveals, it is a political indicator of economic policy.) The new budget is not a war budget, but it closely resembles Stalin's cold war budgets. Defense expenditures are up 12%, to about the same level as in 1952. For the first time since World War II, total non-defense investment isn't slated for an increase.

• **Consumers**—From the budget figures

Agriculture

1935=100



Stalin's Death

and the proceedings of the Central Committee meeting, which preceded the Supreme Soviet, it is clear that Malenkov's original plan to boost consumer goods output by 70% in six years has gone down the drain. Government expenditures on consumer goods industries are far below 1954. Even agriculture is getting less—probably far less, though the figures now available in this country don't prove that conclusively. That's despite Khrushchev's ambitious program to open up virgin lands to cultivation and his hopes of building a corn-hog economy in existing farm areas.

The consumer goods plan was no mere trick on Malenkov's part. To achieve it, his government sank an extra 100-billion rubles into agriculture and the consumer goods industries. The results showed up in the second half of 1953 and the first half of 1954. Late in 1953, output of consumer goods increased faster than production of capital goods.

But it was clearly an emergency program. It depended on success during the initial stages.

• **Block**—Before long, this emergency program ran into an obstacle that was inherent in the lopsided economy that Stalin had left behind him. It proved impossible to switch smoothly from heavy industry to light industry in an economy that had been geared for war through 25 years. Although special funds were allocated and special incentives (including tax relief) given to producers, the program ran into

serious bottlenecks. Skilled labor was not available. The machine industry could not produce enough equipment. And on top of this, the agricultural crisis reduced the raw material base on which many of the consumer goods industries depend.

In many areas, especially in the villages, the Malenkov concessions proved dangerous for the regime itself. By arousing hopes for still more radical changes, they weakened labor discipline and Communist Party control. In fact, by the spring of 1954, the concessions began to threaten the security of the state and party bureaucracy. The totalitarian system had proved to be like a man on a bicycle—it needed to keep going full speed or face the danger of toppling.

• **China**—By this time, there were two other important factors in the situation—the rising industrial requirements of Red China and the growing needs of the Soviet atomic program.

In the Soviet-Chinese agreement of October, 1954 (negotiated by Khrushchev and Bulganin), Moscow made heavy economic commitments to Peking. The Russians promised to deliver within three to four years 4-million tons of steel; 4.6-million tons of pig iron; 25-million tons of coal; and 6.75-billion kwh. of electric power capacity either directly or in the form of equipment to provide it.

Once the Russians exploded the H-bomb in 1954, a new drive was started to achieve thermonuclear equality with the U.S. But it was clear from the start that this would involve a stupendous investment in new electric power facilities. You can get a measure of the problem from these figures: In 1953, the U.S. Atomic Energy Commission used 30-billion kwh. for its projects; to match this would take one-fourth of all electric power available in Russia.

IV. Hard Words

The shift in Soviet foreign policy has not reached the same proportions as the shift in domestic thinking. But Molotov made it plain this week that his tactics are hardening. In his speech to the Supreme Soviet he made several significant boasts:

• **Communism** is riding the wave of the future; nothing can stop the march of Communist revolution in Asia, the Middle East, Africa, and even Latin America.

• **The U.S.S.R.** is the military equal of the U.S. and at least on a par with us in H-bombs.

• **It wouldn't be world civilization** that would perish in another world war, as Malenkov had said last spring, but the rotten capitalist system.

• **Assurance**—The purpose of Molotov's

bombast is clear enough. He was trying to assure the Soviet people that the new government has enough military strength at its disposal to prevent war. At the same time, he was using H-bomb blackmail to threaten the outside world. Second-class powers such as France and Germany, and all small or neutral countries, are invited to get on the Communist bandwagon before it is too late.

This wasn't backed up by any real threats of Soviet action either in Germany or Formosa. In dealing with Formosa, the Soviet Foreign Minister didn't even invoke the military provisions of the Sino-Soviet alliance.

• **Switch**—Even so, there were clear signs of a shift in Molotov's diplomatic tactics. He is dropping (1) previous attempts to divide the U.S. and Britain; (2) any real effort to negotiate the German problem with the Western powers; and (3) any serious attempt to negotiate an agreement on atomic disarmament.

This wasn't the line Molotov took just after Stalin's death. At that time he declared that no "problem exists between the Soviet Union and the United States which could not be resolved by diplomatic methods." This was the refrain Malenkov was to sing for well over a year, almost to the end of 1954.

But starting with the Berlin Conference of January, 1954, Molotov began to switch his own line. By summer, he had his Indo-China offensive in high gear. It achieved one of its main goals—Red China's take-over in Northern Vietnam. But it did not achieve the other—to create a crisis in France that would drive the country into neutralism. At about the same time, Khrushchev was taking a tough line in a speech in Prague—so tough a line that Malenkov saw to it that Pravda deleted some of the material.

• **Downfall**—It looks now as if the progress of German rearmament last fall, plus the growing economic strength of Western Europe, finally tipped the balance against Malenkov's relatively conciliatory position. By October, Khrushchev and Bulganin were in Peking giving the Mao government strong backing for an aggressive policy in the Formosa Strait. No doubt Khrushchev figured that indecision in Washington would let Red China repeat its Indo-China success in Formosa.

Washington's Formosa policy has brought the Kremlin down to earth by now. The Kremlin knows that Russia is in no position to back Peking in a test of strength with the U.S. But there is no indication that Molotov wants to get the Formosa issue settled soon. To keep it boiling fits exactly with his new, tough foreign policy tactics.



MESSENGER In Hendersonville, N. C., General Electric breaks ground for a new plant. Cherokee leader arrives in a truck, clutching a firebrand.



DELIVERY It was a press agent's idea. Firebrand represents a memorial fire kept burning on a nearby Cherokee Indian reservation for more than 100 years.

February Madness: Starting a Plan

Last weekend two giant U. S. corporations leaped ponderously into the air, clicked their heels, and proceeded to act as though it were spring. Examples of the resulting corporate frolic are pictured on these pages.

Since it was really only February, all this was double madness. Yet there was method in it. The two companies went berserk with great care and solemn deliberation. Each was pursuing a dead-serious purpose:

General Electric Co. was breaking ground for a \$5-million plant in Hendersonville, N. C. The plant repre-

sents more than walls and roof and machinery; it stands for a company philosophy.

Birds Eye Div. of General Foods Corp. was introducing a huge new sales promotion, involving the Ringling Bros. Barnum & Bailey Circus, to its sales executives.

• **New Plant**—General Electric's new plant will belong to the Outdoor Lighting Dept. Not only that; it will be the Outdoor Lighting Dept. It's part of a developing tendency in GE to make each operation a separate profit unit—almost a separate company. The

Hendersonville plant will house not only manufacturing machinery and personnel, but also the department's executives, its sales functions, its engineering and research facilities. The setup is viewed warmly by the South, which has often complained that big companies put their production shops in the South and their offices—their nerve centers—in the North.

General Electric had special reasons for picking Hendersonville. There is little major industry near the town (population: 6,000), and the labor force there is large and friendly. Transporta-



HANDSHAKE In Sarasota, Fla., Birds Eye joins promotional forces with Ringling circus. Clown Emmett Kelly symbolizes it with a handshake.



LIFT Executive Howard F. Lochrie tells assembled Birds Eye sales chiefs of expected selling boost. Elephant obligingly demonstrates.



TRANSFER Runner hands brand to GE executive L. Byron Cherry. This symbolizes joining of old and new, countryside and GE plant.



SIGNAL Gov. Luther Hodges of North Carolina takes brand, holds it before electronic eye. This signals bulldozer; it breaks ground.

Plant, Launching a Promotion

tion is good, and GE likes the climate.

Hendersonville itself is happy with the arrangements, too. When the plant starts operating, which should be some time late this year, it will mean new jobs for about 500 workers. It will bring the town a payroll of some \$2-million a year.

•**Circus**—While GE was breaking ground in Hendersonville, Birds Eye was busy gathering 150 of its top sales executives in Sarasota, Fla. Once there, the executives were treated to a somewhat weird combination of sales meeting and circus (pictures, below).

They were told the details of a promotional tie-in between Birds Eye and the Ringling circus organization. Essentially, this tie-in gives Birds Eye the use of Ringling's reputation in frozen food promotions. Whenever the circus comes to a town along its summer route, stores and distributors in the area will launch a concerted promotion hinged on the catch phrase "circus of value." Birds Eye will help the local businessmen pay for advertisements, and it will also provide them with special circus-type gifts for children. The company plans to kick off

the campaign this spring with an hour-long television broadcast of the circus' New York opening.

The circus gets paid for its part in the program. It also gets a lot of free advertising in the towns it visits—advertising paid for by Birds Eye and local businessmen.

The circus has entered advertising ventures such as this before, but never so extensively. One of the acts in the show will be related directly to Birds Eye—though circus officials have not yet said exactly how. This, too, is something the circus has never done before.



CHASE Another sales executive pursues a quarry, who no doubt symbolizes company's frozen food customers. He is gaining rapidly.



PITCH Birds Eye executive Edward Tabibian launches sideshow-like speech on the advantages of advertising with a circus theme.

What a New Auto Really Costs This Year

1. Here's a starting point: Below is the manufacturer's suggested retail price, plus the price of the almost-standard accessories — automatic transmission, radio, heater.

CAR & MODEL	TOTAL
Willys Custom	\$2,091.07
Chevrolet Bel Air 6 (Add \$99 for V-8)	2,267.65
Ford Fairlane 6 (Add \$99.98 for V-8)	2,301.97
Rambler Custom	2,317.35
Plymouth Belvedere 6 (Add \$103.50 for V-8)	2,323.96
Studebaker Champion	2,365.77
Mercury Custom	2,633.50
Buick Special	2,658.02
Pontiac Star Chief	2,705.35
Oldsmobile 88	2,721.04
Nash Statesman	2,734.75
Mercury Monterey	2,757.00
Studebaker President	2,763.50
Dodge Custom Royal	2,828.05
Buick Century	2,914.87
Packard Clipper	2,966.03
Kaiser Manhattan	2,998.55
Chrysler Windsor	3,036.20
Hudson Hornet 6	3,119.92
De Soto Fireflite	3,133.25
Oldsmobile 98	3,191.77
Nash Ambassador 8	3,358.88
Hudson Hornet 8	3,374.92
Buick Roadmaster	3,535.56
Chrysler New Yorker	3,681.20
Lincoln Capri	4,003.00
Packard Patrician	4,150.32
Imperial	4,670.20
Cadillac 60 Special	4,988.52

2. Add transportation costs. Depending on where the car is sold, they'll range from about \$20 to maximums something like this:

Low-price car \$140
Medium-price car 180
High-price car 200

3. Now comes the dicker between dealer and customer. The dealer's maneuvering room is set by his margin of about 24% — except that he needs at least \$100 and often more to cover such direct costs as his salesman's commission. So — depending on location, competition, and make of car — bargaining skill can shave the price (or boost the trade-in) anywhere from nothing to some figure approaching:

Low-price car \$450
Medium-price car 550
High-price car 750

4. Finally, add state and local taxes.

(Power steering adds \$90-\$115, power brakes \$35-\$40 to medium- and low-priced cars; both are standard on most high-priced models.)

The Dealers Find It Rough

It's hard to believe, from the prices of new cars shown above, that auto dealers would have much to gripe about. Yet many of them complain that their profit margins are still around last year's 1%-to-sales.

The trouble with the posted prices is that they mean so little. "There's no set price in the automobile business any

more," dealers and factory people alike say. "It's a trading business," they add.

Last week, the American new-car buyer was gaily trading. But as he skipped from showroom to showroom hot on the scent of discounts, dealers were grimly totting up January results.

If you look only at the number of cars sold, it was a good month. Gen-

eral Motors reported that its dealers, retailing 261,393 cars, had set a new high for the month. Ford Div. said its dealers had broken all January records. Chrysler dealers' sales were 70% above last year and within 2% of their all-time January high. The joker was that the final figure showed sales far out-running profits, as the price-conscious

customer played one dealer against another.

• **Confusion**—In many cases, however, the buyer haggled under handicaps. "The buyer doesn't know what the price should be," says one dealer. Another explains, "All the customer is interested in is how much difference he has to pay and how long he has to pay it in."

The dealer, however, doesn't like the present situation. Like as not, the cost of his operation is geared to getting full list price—as it was a few years ago. That is the "factory suggested retail price," which includes anywhere from 20% to 25% gross profit to the dealer on the car itself, plus about 40% gross profit on the cost of such items as automatic transmission, radio, and heater—which go into well over 50% of all new cars.

• **Case Study**—As an example, take the Plymouth Belvedere six-cylinder, four-door sedan, with automatic transmission, radio, and heater. It carries a factory suggested price of \$2,323, which includes federal tax and dealer handling charge (but not transportation charge or local taxes). The dealer's gross profit would be around \$430 on the car itself, plus about \$71 on the automatic transmission, \$35 on the radio, and \$31 on the heater—for a total gross profit of about \$567.

Out of that, his salesman's commission might run as high as \$150 (there's no standard for commissions, and some dealers base them on the bare car price, excluding options). So the dealer's bargaining margin is something over \$400, less his overhead costs. Included in the bargaining, of course, is the fact that he might lose money on the car he takes in trade.

• **Realistic**—Dealers are almost unanimous in saying that no one gets full list any more. But they blame themselves for that situation, saying that when the seller's market ended in mid-1953, dealers went hog-wild in discounting, just to move their stocks. So many now shrink from the thought of encouraging further "shopping," and insist they do not dicker on the price. But even these men are realists, and when the prospect starts to walk out, add maybe \$200 to their trade-in offer. That's called "over-allowing," and is just discounting by another name.

But suppose this dealer has real tough competition that is over-allowing the full \$400? He can over-allow \$450, then tack \$200 or more on to the price quoted to the prospect. This is called "packing"—and few dealers admit to doing it. Actually, the customer is no worse off than if he paid the full price with the lesser over-allowance.

• **The Pawn**—The real key to the dickering, and perhaps to the entire auto-pricing picture, is the used car. One

Midwest dealer says, "We're not selling new cars, we're buying used ones." He adds that from 80% to 90% of the new-car retailing business involves trade-ins. So dealers long ago learned that they can close a deal quicker by fancy over-allowances than they can by straight discounting.

Dealers and finance men think this over-allowance trend is going to cause real trouble later on, because, they say, new cars are priced entirely too high. The consequence is that the first year's depreciation is something staggering. Right now, many a 1954 model retailing originally for, say, \$2,900, is selling on used-car lots at better than \$1,000 less. The buyer who now gets a big over-allowance (which he pays back to the dealer in the form of a pack) will get a rude awakening when he goes to trade two years from now—when, the experts assume, auto retailing will have settled down.

• **Two Remedies**—Some auto men are discussing the possibility of chopping away all the shadow areas in auto pricing so that retail prices actually can come down without all the present dealer-customer haggling. As it stands now, most factories some time or another during the year give bonuses to dealers. That, in effect, is reducing the wholesale price. Why not, argue some Detroiters, just reduce that price?

On another front, at least one of the Big Three factories is trying to sell its corporation management on the idea of abandoning the factory-suggested list. The dealers would get the same wholesale price they do now. This would scotch a lot of the dickering. The customer, with no published price to guide him, wouldn't know where to start bargaining from. On the other side, dealers would be hobbled because they would have no list price to start discounting from. Their price would be set only by their own costs.

Dixon-Yates Financing Gets Nod From SEC

The Securities & Exchange Commission this week approved equity financing plans of the new Dixon-Yates power firm, Mississippi Valley Generating Co. The vote was four to one. The company plans to issue all of its 55,000 common shares to Middle South Utilities, Inc., and the Southern Co., to get \$5.5-million equity capital.

SEC Chmn. Ralph Demmler and the majority said the plans satisfied Holding Company Act provisions. Commissioner Paul Rowen, Democrat, dissented.

The Atomic Energy Commission meanwhile rejected a Democratic plea to cancel the Dixon-Yates contract.

Du Pont's Punch

Company strikes back at antitrust appeal on its GM holdings by claiming its share of new GM issue.

E. I. du Pont de Nemours & Co. showed last week that, like a good prize-fighter, it can come back with a fast punch when it's hit.

The blow to du Pont came last Friday, when the Justice Dept. announced it would appeal to the Supreme Court the federal court decision absolving du Pont of charges of conspiracy and restraint of trade (BW-Dec.11'54,p 32).

• **Surprise**—The first du Pont reaction was surprise and disappointment. Pres. Crawford H. Greenwalt reflected this in saying he had hoped that the "clear-cut vindication" of the company by the District Court would preclude further Justice Dept. action.

• **Retort**—But before many hours had passed, du Pont returned the punch. The giant chemical corporation unexpectedly announced that it would exercise its rights as a General Motors stockholder to buy about 1-million common shares of GM's forthcoming 4.4-million-share issue (BW-Jan.15'55,p 120). At the \$75-a-share offering price just announced, this would cost du Pont around \$75-million. And it would keep intact du Pont's 22.6% interest in GM.

Since this hefty chunk of GM common is the focus of the government suit, du Pont's announcement was something of a challenge to Atty. Gen. Herbert Brownell, Jr. Most financial observers had been betting that du Pont would be reluctant to put up the cash for the GM stock. But the investment has been profitable for du Pont for 38 years; last year it paid some \$100-million before taxes.

• **Confident**—The move indicates that du Pont has no fear of the Justice Dept.'s appeal. The department contends that the company, together with two du Pont holding companies, Christiana Securities Co. and Delaware Realty & Investment Co., restrains trade by (1) controlling the management and policies of both GM and du Pont, and (2) protecting markets for some du Pont products and excluding competitors. The government seeks to force du Pont to divest itself of its GM holdings.

Du Pont's decision also makes life easier for Morgan Stanley & Co. and 330 investment houses underwriting the huge deal—the largest offering of new common stock ever. The du Pont block won't have to be split up.

Air Routes

The White House has told CAB what to do about Pacific routes. Now Mexican flights come up.

This week, Pres. Eisenhower settled a stormy Pacific air route dispute by reversing his decisions to drop Northwest Airlines from its Seattle-Portland-Hawaii run and to extend Pan American World Airways rights.

The reversal came after a Congressional delegation from Minnesota protested that Northwest, an airline that is local industry for them, was being cut out of a route in favor of Pan Am.

The decision to drop Northwest from the Hawaii route came up last week with a bundle of other Pacific route cases. Monday, after talking with the delegation, Eisenhower told CAB to put Northwest back on the route with Pan Am for three more years.

• **Mexican Routes**—Just as the Pacific storm began to blow away, another started forming in the direction of Mexico. Three airlines—American, Eastern, and Pan American—filed briefs with CAB, asking for nonstop routes between New York and Mexico City. Now, Air France has the only nonstop service to Mexico.

American and Eastern seized the opportunity to repeat old charges of "secret deals" with Mexico.

Capt. Edward V. Rickenbacker, chairman of the board at Eastern, told the press in New York that "American Airlines is attempting to rape the one route that still stands in their way—the New York-New Orleans-Mexico City service. Eastern already has the New York-New Orleans route and has long wanted to extend it to Mexico City."

The American and Eastern briefs were loaded with countercharges of "double-dealing" in Mexico without U.S. sanction. The Mexican nonstop route question will be tough for CAB, and ultimately the President. There is no bilateral air agreement with Mexico, and the Mexican government hasn't been overly agreeable about letting U.S. air carriers start any new services.

• **Nonstop Flights**—Pan American's brief stayed clear of accusations in making a pitch for competition with Air France. As it stands now, Air France can carry passengers from European points to New York and on to Mexico with only one stop at New York. Pan Am's brief sets up a "plan to recapture . . . a substantial part of \$10-million worth of airline business a year now abandoned to a foreign-flag airline [Air France]. . . ."

Passenger agents say that Air France has been doing a booming trade on the nonstop Mexican route, opened a year ago. American Airlines says it lost more than half its Mexican traffic after Air France opened up the nonstop run. American now has to stop at Dallas.

• **Hard Times**—The Mexican route thumma, the Northwest Airline switch, and a pile of other Pacific route cases made for a tough 10 days at CAB. Insiders say the board is unhappy about recent deals. They say the board never had a chance to discuss the Pacific decisions with the President, though they lay a long time on his desk.

Here are some of the things the

President told CAB to do in the Pacific:

- **Extend Northwest's** Seattle-Tokyo certificate for seven years; extend the line's Okinawa, Formosa, Hong Kong, and Philippines routes for five years, and the Korean route for three years.

- **Defer decision on Pan Am's** application for the Great Circle route (nonstop northern route to the Orient).

- **Defer decision on previous** authorizations to points now held by Communists, mainly in China.

- **Deny applications by Trans** World Airlines for new routes. Deny Trans-Ocean Airlines (non-sked) a transpacific certificate.

U.S. School Aid—Via States Only

Eisenhower's federal aid plan steers clear of direct grants, and Congress is split on its merits.

The Administration's school construction bill this week split Congress on partisan lines over the thorny question of what to do about classroom shortages.

President Eisenhower's plan was billed as a \$7-billion construction program. He called mainly for loan guarantees and a revolving fund to enable the states to build their own schools.

Eisenhower went directly counter to what the Democrats have been pushing. They want a big federal grant to states.

• **Basic Clash**—Politically, it's a head-on clash between basic Republican and basic New Deal philosophies.

Democrats quickly jumped on the \$7-billion figure as misleading and Sen. Lister Hill termed the Administration approach one of "interminable delay on the one hand or a meager dole on the other." Democrats in the Senate appeared to be sticking to the bill introduced by Hill, who is chairman of the Senate Labor Committee. It calls for \$500-million in federal grants each year for two years.

Republicans got behind the Administration bill. Many who previously had called for outright grants jumped on the Administration bandwagon.

In the House, Democrats leaned more toward the bill backed by Rep. Cleve Bailey of West Virginia, chairman of a Labor subcommittee that will handle the legislation in the House. Bailey's bill has no dollar ceiling, but would authorize the government to match state funds on a dollar-for-dollar basis over a five- or six-year period.

• **Local Bonds**—The Administration bill provides for the following:

- For districts so burdened with prior debt that their credit ratings don't permit them to get favorable interest rates on new bonds, a fund of \$750-million over three years with

which the Treasury would buy the districts' bonds.

- For districts whose statutory borrowing power has been exhausted, federal help in starting a revolving fund in the states to guarantee bonds on \$6-billion worth of schools. State agencies would put up the buildings, lease them back to the districts that need classrooms. The districts would pay rent that would be applied to amortization; eventually they would own the buildings. Rent payments don't count against a district's legal debt limit. The federal contribution of \$150-million would be half the capital to start the revolving fund; the states would put up the rest.

- **Outright federal grants**, through the states, of \$200-million over a three-year period to aid "poor" districts that cannot qualify under either of the above two proposals.

- A federal appropriation of \$20-million to cover the administration costs for state projects to meet long-range needs of school classrooms.

The Administration claimed that its approach would sustain the principle of state and local responsibility in school construction, and at same time provide for \$13-billion of construction over a three-year period.

- **Third Proposal**—Sen. Irving Ives, of New York, the only Republican member of the Senate Labor Committee who did not co-sponsor the Administration bill, has a bill of his own. His measure, identical to the Bailey bill in the House, calls for outright grants to the states on a dollar-for-dollar basis, based on school population. Ives called the President's bill "complex," said he couldn't tell whether it would meet the need in New York State, and said he planned to submit it to education authorities in his state for analysis.

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said Mr. Friendly



Note: This is the umpty-ninth ad about American Mutual's special money-saving service, which should be enough umpty-ump cases to convince anyone!

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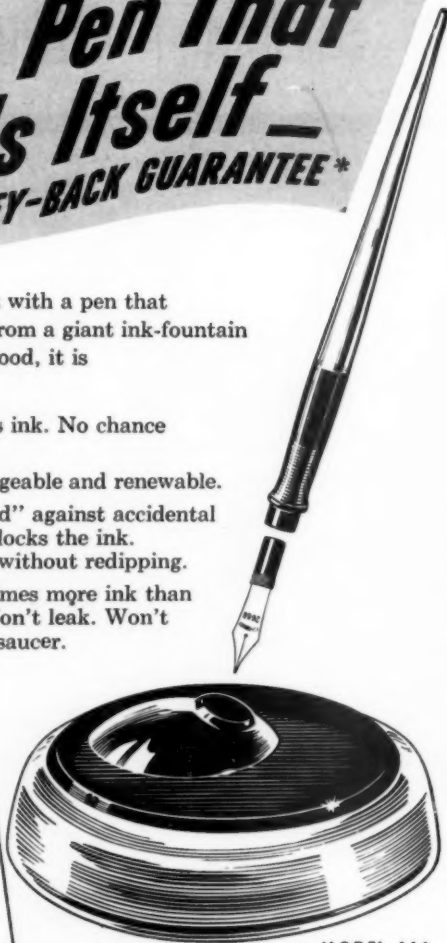
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A truly amazing desk set with a pen that automatically fills itself from a giant ink-fountain in the base. And it's so good, it is *guaranteed to please you!*

- ▶ Finger grip never touches ink. No chance for ink to touch you.
- ▶ Point instantly interchangeable and renewable.
- ▶ Fountain-base "ink-locked" against accidental spillage. Only the pen unlocks the ink. Writes full page or more without redipping.
- ▶ Fountain-base holds 40 times more ink than ordinary fountain pen. Won't leak. Won't flood. Easy to clean as a saucer.

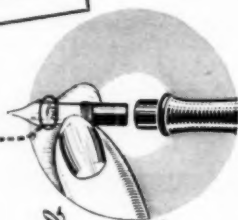
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BUSINESS BRIEFS

Copper exports banned: The Commerce Dept. has forbidden all shipments of refined copper from the U.S. through the end of March. At the same time, a 12,000-ton ceiling was set for the period on exports of copper scrap and copper-base alloy. The metal, already tight in the U.S. market, has been drawn abroad in alarming quantity by the higher prices prevailing there (BW-Feb. 5 '55, p. 29).

The rosier aspects: Personal income of Americans hit a \$291-billion annual rate in December—the highest month ever, according to the Commerce Dept. (page 188). . . . The department also said that December was a "good" month by the yardstick of manufacturers' sales (\$24.9-billion) and new orders (\$24.7-billion).

Arkansas' "fair trade" law was knocked down this week by the state supreme court. The clause in the law binding nonsigners to observe price-fixing contracts was held to be unconstitutional.

The private atom is inching into being (page 100). American Machine & Foundry Co. says it has completed plans for a \$1-million-plus nuclear research reactor, due for completion in 18 months. A group of private companies will own and operate the reactor, which is described as the first in such collective private ownership.

Is "treasury stock" taxable as income? The Supreme Court has agreed to decide whether the government can treat as income the profits that a company may glean from buying back and then reselling its own stock. The case at issue: an \$89,000 tax claim against the cotton firm of Anderson, Clayton & Co. (BW-Dec. 11 '54, p. 84).

\$100-million annual drug sales: That's the end product of the merger of Warner-Hudnut, Inc., and Lambert Co., approved this week by directors of both companies. Stockholders of both companies will vote next month on the project. The new company would be called Warner-Lambert Pharmaceutical Co., and would have assets of \$28-million.

The U.S. Treasury beamed as it labeled its latest \$15-billion refinancing job a "complete success." Investors snapped up 73% of the new 40-year 3% bonds offered by the Treasury, in exchange for \$2.6-billion of 2½% bonds. For the entire \$15-billion refunding, only 5% of holders opted for cash instead of other securities.

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From the basement depths to the 20th-floor penthouse, this spiral duct work soars up through the Warwick Hotel in Philadelphia.

In making the installation, a prominent air-conditioning company had to be certain that the lengths of duct could be perfectly joined, for—if any air escaped—heating and cooling efficiency would be considerably reduced. And, of course, the seal could not be affected by summer "cold" or winter heat. 3M solved the problem with EC-750.

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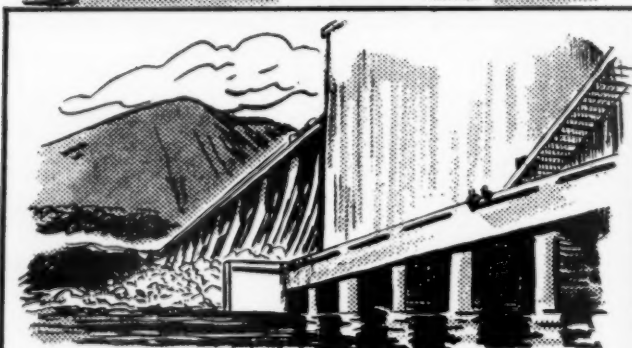
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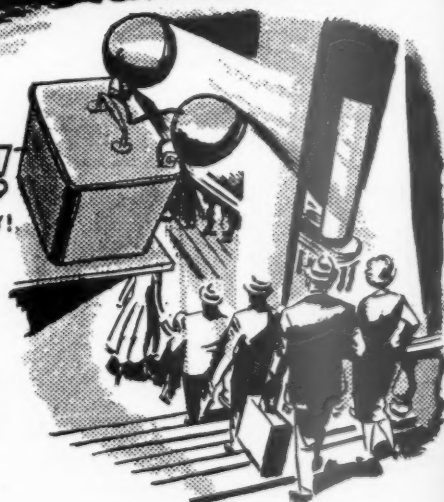
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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
FEB. 12, 1955



Washington is bracing itself for intensified cold war with Russia.

The mood of the town this week is obviously more tense.

But second-look judgment still holds to the view that chances of a big war are small.

—•—
Here is a sum-up of estimates of government officials:

The overthrow of Malenkov reveals a serious weakness in Russia's lopsided economy since Stalin's death. Running throughout the accounts from Moscow is the complaint that Malenkov permitted "slippages" in industrial expansion, and inefficiency in agricultural productivity—a price he paid in trying to give the Russian citizen an easier life. So Bulganin is committed to turn back to an emphasis on a broadened industrial base and increased farm output, to shore up the country in case of an all-out conflict.

"Coexistence" as a policy has failed for the Russians. Western Germany has spurned Russian overtures; France is going along with German rearmament; the U. S. is drawing a line at Formosa. These events, though fraught with difficulties, are happening despite Moscow's siren song of coexistence. Hence—a return to toughness.

—•—
Isolated "incidents" become more serious even though war is no closer. This is understood. But the Administration feels—so far at least—that such threats call for more delicacy, rather than for more military spending and military manpower.

Renewed cold war tactics may show up first in Formosa. Some U. S. allies have had the feeling that the Soviets actually would help achieve cease-fire talks with China. Now obstruction is expected from Moscow.

—•—
Eisenhower looks stronger—in over-all political measuring. It's now harder than ever for Democrats to stick a "mishandled" label on his policies. There's less talk in Washington about the Eisenhower "luck" and more acknowledgment that he has a gift for "timing."

A Democratic shift on military spending is an example. Democrats a month ago were boastful about what they'd do to the Administration's cut in the Army, and in defense appropriations. They were inviting all the critics—including Army Chief of Staff Gen. Matthew Ridgway—to come to Capitol Hill and tell about the dire results of the President's budget.

Now Democrats are throwing in the towel. Chmn. Carl Vinson of the House Armed Services Committee has switched around to support of the Eisenhower cuts. He's a big influence. And you can expect other converts.

Senate Armed Services Chmn. Richard B. Russell's quick reaction to the Soviet overthrow was to call for a military "re-evaluation." But he can be expected to cool off later.

—•—
Tax cuts for individuals are being dropped, as well. Democratic nose-counting indicates they couldn't win in Congress, at this time. So the plan is to put through Eisenhower's request for extension of the 52% corporate tax rate and of excise rates, and to put off other relief until next year.

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
FEB. 12, 1955

But by next year Eisenhower will have his own reduction program, too. However, Democrats may still try to repeal the tax relief on dividends voted last year; it's not definite yet.

—•—

Eisenhower is taking his time on some major domestic issues. One reason is that there are real conflicts inside his Cabinet. Another is that the White House is using the time to iron out these difficulties before they become public property for political oratory.

One such holdup is the highway program. The Administration wants to win over Sen. Harry Byrd, an unreconstructed budget balancer, before the President's highway message goes to Congress. Byrd is against any new program that will open the Treasury safe to take out more money; Eisenhower's money men are assuring him they'll stay inside the \$2-billion a year revenue from gas and auto taxes. They hope Byrd will buy this.

—•—

Debate over oil imports is holding up another policy report. A Cabinet committee on fuels policy is split down the middle on whether to recommend import quotas (page 158). Quotas would violate over-all tariff and trade policy, but the quarrel is still going on.

Another tie-up: policy on federal control of natural gas production.

—•—

A report on transportation has been held up the longest. It has become an on-again-off-again-Finnegan. A Cabinet committee has sent recommendations to Eisenhower that would give railroads a break—easing rate regulation, permitting integration with other overland and water carriers, requiring trucks and airlines to pay more of their own way.

But opposition is keeping Eisenhower from putting his blessing on the report. The question has been knocking about in the White House so long that some "report" will have to come out. It's likely to be fuzzy.

—•—

Democrats and Republicans are trying to outpromise each other. Eisenhower proposes a 90¢-an-hour minimum wage; Democrats say \$1 or \$1.25. Democrats introduce school construction legislation; the Administration hurries up its own version (page 32).

Take the school issue. Democrats on the Senate Labor Committee are ready to vote for a grant-in-aid plan, distributing about \$500-million a year of federal money.

This week Eisenhower offered about half that. And he wants states and school districts to shoulder the big load, with Washington helping by loan guarantees, lease-purchasing assistance, and similar means.

—•—

The headlines blow up those figures to outsize proportions. The Administration proposal is called a \$7-billion program over the next three years. But most of the \$7-billion will come from regular local school expansion; Eisenhower would only guarantee a local school system's bonds.

Highway construction figures can be misleading, too. The talk is of a \$100-billion expenditure over the next 10 years. Half of that is being done now. If Eisenhower's new idea goes over, the federal addition will be about \$2.5-billion a year—or 25% of the total.

Eisenhower's economy men figure a lot less than that will actually be spent. Indeed, they would be worried about a runaway boom if it all were.

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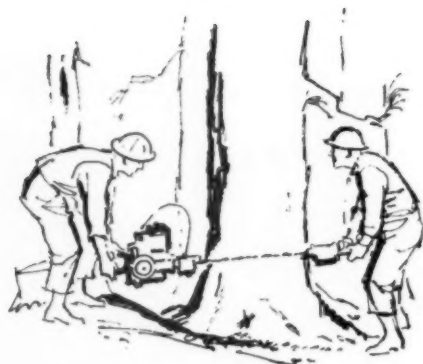
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BUSINE

LOCAL BUSINESS



Autos vs. Age

KNOXVILLE—The question of whether a 101-year-old landmark, the Market House (picture), should be torn down for parking space in the business district has split this city into two camps.

The block-long Market House, a part of which dates back to 1854, is in the center of Market Square, a block away from the main business street and the city's department and apparel stores. Still used, the building houses rows of food stalls, each operated by a private company. Down its center are tables where farm people bring their butter, eggs, and other produce to sell.

Mayor George Dempster wants to buy out the rights of heirs to the property—for \$140,000—raze the Market House, and use the space for parking. The city has title to the land now, but retains it only as long as it is used as a market place; then it reverts to heirs.

At this point, 100 stall operators and street hucksters have met and named a committee to press their fight against tearing down the building. The ladies of the Society for the Preservation of Antiquities have come out in firm opposition to the parking plan.

On the other side, a group of downtown merchants and property owners—including department store executives—has voted unanimously to back the mayor. Says jeweler Harry Busch: "The only thing antique about the Market House is the smell of fish from one end of it to the other."

Leak in the Bus Till

WORCESTER, MASS.—In two years of operations here, Worcester Bus Co. has seen its profits steadily shrink. Last week police believed that some of



Are you expecting too much from your engineers?

Captive engineering staffs necessarily carry a heavy burden. In any company, application and production engineers must know every detail of their products . . . concentrate largely on immediate technical problems.

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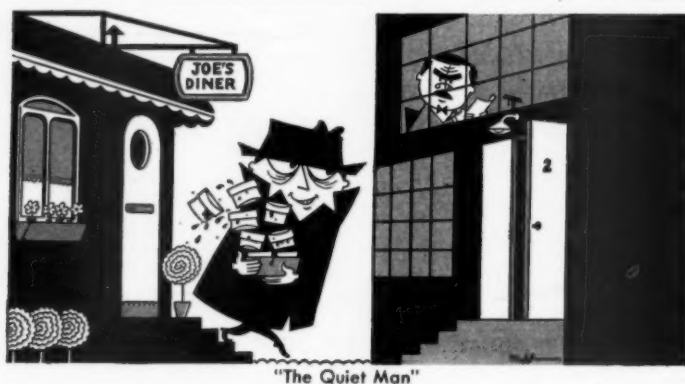
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No revolver in sight—but he's staging a hold-up, in terms of lost production time. This doesn't have to be the case. Rudd-Melikian's Kwik-Kafé system provides management with real control of the "coffee-break", and makes it build, not break down, worker efficiency.

Employees take their "coffee-break" right in the office or plant, without leaving their work area, and lost time is cut to the minimum. Rudd-Melikian, Inc., leader in the field of "coffee-break" control, installs and services dependable dispensing machines that supply delicious Kwik-Kafé coffee and leading soft drinks at no cost to management.



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the shrinkage had been stretching an employee's pocket.

On Jan. 1, 1953, Worcester Bus bought out the money-losing Worcester Street Ry. Co.; in the first quarter of 1953, it showed a net profit of \$12,624 (BW-May 16 '53, p136). But in the first 10 months of 1954, the company had a net of only \$4,592—84½% less than the year before. Passenger revenue was down \$175,000.

Late last month, police closed in on a company money counter, arrested him, and announced he was being held in \$100,000 bail. Officials said his alleged thefts, over nearly two years, might amount to \$175,000. The bus company promptly slapped a \$150,000 attachment on his home and five bank accounts.

Get a Truck

PHILADELPHIA—The day of the mail-carrying horse has finally ended in Philadelphia. At auction last week, the last 30 horses, wagons, and harnesses in the city's horse-drawn postal delivery service were sold to the general public.

For years, Philadelphia postal officials held to the theory that horse-and-wagon delivery expedited service in the congested center-city area. But when Harry Hurwitz, South Philadelphia teamster who supplied the horses and wagons on a contract basis, asked a 25% increase, Uncle Sam decided trucks would be cheaper. The horses and wagons are being replaced with 27 motor vehicles. Hurwitz, whose contract was worth \$120,000 last year, got \$60,000 for the animals and equipment at the auction.

Philadelphia's horse-drawn service attracted national attention in 1953 when the Hoover Commission cited it as "typical of the antiquated . . . postal system."

City-Owned Slums

PITTSBURGH—Pittsburgh's biggest slum landlords will be called on the carpet when this city's new housing code goes into effect Mar. 1. Ironically, the three largest holders of blighted property are the taxing bodies—the city, the county, and the school board.

Pittsburgh's new housing code requires all landlords to bring slum homes up to specified living standards. The taxing agencies, more than slightly embarrassed, own millions of dollars worth of substandard property taken over at sheriff sales when owners failed to pay taxes.

City officials feel it would cost a fortune to renovate or tear down the 400 or so buildings that are now classed as dilapidated. One official predicts that if the agencies try to conform exactly to the new code, they will have to get out of the landlord business altogether.

380 MADISON AVENUE

**Eljer fixtures used
throughout
this fine example
of the newest in
office construction
for old New York**

OWNERS:
Uris Brothers Company
ARCHITECTS:
Emery Roth & Sons
GENERAL CONTRACTORS:
Cauldwell-Wingate Co.
PLUMBING CONTRACTORS:
Wachtel Plumbing Co., Inc.

Tiered design with a broad expanse of windows makes 380 Madison Avenue a splendid sample of the "new look" that's sweeping across Manhattan.

A typical example, too, of advanced architectural thinking lies in the choice of Eljer plumbing fixtures throughout!

Eljer offers architect and builder these advantages:

1 Eljer is constantly working in the design and development of fixtures for public buildings, hospitals, hotels, schools and prisons. Eljer has a great record in these demanding fields.

2 Eljer manufactures a comprehensive line of cast-iron, formed steel and vitreous china plumbing fixtures plus top-quality brass fittings. Eljer can serve all your needs for all four.

For specifications and facts on all advantages write Eljer, Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh 22, Pa.

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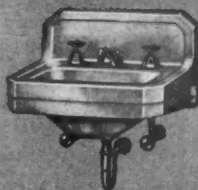


*Typical Eljer fixtures in use
at 380 Madison Avenue.*

**Eljer, the only name
you need to know
in plumbing fixtures**



Vitreous china
toilet



Vitreous china
lavatory



Enameled cast-iron
service sink



Vitreous china
urinal

MARKETING



OLD head of Coca-Cola was Robert W. Woodruff. He is easing hold.



NEW board chairman is H. B. Nicholson, moving up from president.



NEW president is William E. Robinson, hard-hitting sales executive.

Coke: New Faces, New Bottles

The Coca-Cola Co. is about to experience its biggest changes in years. Nothing quite so important has happened at the giant soft drink company since Asa G. Candler, the Atlanta wholesale druggist who made the drink and its bottle famous throughout the U. S., sold out his business for \$25-million 35 years ago.

This week Coca-Cola got its first

major change in top management since 1923. It acquired a president (picture) who is both an outsider and a Northerner—the first non-Southern president in the company's 70-year history. And it officially announced it is experimenting with two new sizes of bottles (picture), the first change it has made in Coke's package since Candler introduced the hour-glass 6-oz. bottle back in 1915.

• **Not Connected**—The shift in management and the experiments with the bottle sizes are not causally connected. The change in top jobs has been brought about by the fact that Robert Winship Woodruff (picture), who is Mr. Coca-Cola, reached the mandatory retirement age of 65 on Jan. 1.

Woodruff has relinquished the control of the executive committee—though he remains on it as a member—and the chairmanship of the board to H. B. Nicholson (picture), who has been president of the company for the past two years. To fill Nicholson's place, the board has named William E. Robinson (picture), a 55-year-old Rhode Islander. Robinson is head of Robinson-Hannagan Associates, Inc., the public relations company founded by the late Steve Hannagan, who got the Coca-Cola account 15 years ago.

I. Meeting Competition

The changeover of management is symbolic of what is happening to Coca-Cola. Coca-Cola has long had about half the soft drink business; the rest of the industry has shared the other half. Now a new era is setting in, and

for the first time in decades there are some questions about Coca-Cola's future.

Coca-Cola can hardly be said to be foundering. Yet it is faltering.

• **Not Easily Moved**—For years, Coca-Cola and its bottlers have been the soft-drink industry. For example, in 1950, when the industry generally went to higher price levels and the 10¢-bottle of pop was accepted almost everywhere, the big question was, "What's Coca-Cola going to do?"

What Coca-Cola did was to choose volume over profit—it tried to hold the 5¢-a-bottle line. Because bottlers are bottlers, and they have a lot to say in the industry, Coca-Cola only partly succeeded. A bottle of Coke today sells for 6¢, 7¢ or even 10¢, depending on the area. But it still sells for a nickel in enough places to keep the competition in checkmate.

Coca-Cola never gives an inch. It has resisted every pressure through the years to get it to offer more than just The Flavor, the one and only flavor it makes—or presumably ever will make. It has likewise stuck through thick and thin to its classic 6-oz. bottle.

• **Different Now**—Today, for the first time, Coca-Cola is wavering under the pressure that is coming from such sources as:

• The important Midwestern Coca-Cola bottler who told **BUSINESS WEEK** that his share of the soft drink market used to be 45%, but that now it has slid off to 40%;

• The Eastern bottler who confides that he has had to fend off competition from a new quarter by can-



NEW SIZES are being tested by Coca Cola.

ning his own soft drinks in several flavors under a private label.

• The New England bottler who, like others, has gone in for cup-vending machines despite frowns from Coca-Cola's Atlanta headquarters.

These are some of the signs that the market, long Coca-Cola's plaything, has overtaken it. Three things have brought this about—(1) the development of the take-home business, (2) the enormous recent jump of the automatic vending of foods in industrial plants and other traffic locations, and (3) the even more recent development of the canned soft drinks.

Of these, the take-home business has planted the biggest time-bomb under Coca-Cola.

II. The New Market

Ever since World War II, America's buying habits have been changing. Much of the change has been centered on television and the widespread shift in leisure habits. Before the war, the bulk of soft drink was sold in drug stores, soda fountains, ball parks. The take-home market represented only a small portion of a company's total sales. Then people started staying home to watch TV and to entertain.

Soft drink industry figures show that as much as two-thirds of all soft drinks made and sold in this country are now destined for the take-home market. As a result, manufacturers are concentrating more and more on supermarket and grocery store sales.

• **Bottles**—For soft drink manufacturers, distributors, and retailers, this development has created a bottle problem. Frequently, grocers complain that the stacks of empty bottles represent additional cost and effort that cut profits. Coca-Cola, however, claims that few grocers will deny that returnable bottles lead to repeat sales. When a customer cleans out his kitchen closet or back porch and returns the bottles, he not only buys more beverages but other goods as well.

Some of the surveys now being conducted among consumers and retailers show some surprising results. For example: One company found that if you put a soft drink dispenser in the store, it not only increases your take-home soft drink sales by some 40% but it also raises grocery purchases.

• **Ferment**—The increasing emphasis on take-home sales as the major market for soft drinks has caused the industry to do some serious thinking about merchandising policies. Some companies have pinned their hopes on cans, either crown or flat tops, in hope of grabbing a bigger share of total sales. Others

are changing their bottle designs or sizes.

Last week, the pressure finally stirred the industry leader to action. Though not suffering yet, Coca-Cola Co. is feeling the pressures caused by the swing to the home market and the pulling and hauling of competitors searching for a larger share of total soft drink sales.

Traditionally secretive, the company closely guards figures on how much of its gross business is represented by the home market. Depending on the area reporting, independent bottlers say that it varies from 52% of total sales all the way down to about 35%.

A Coca-Cola official at one of the regional offices, in a moment of unusual frankness for his company, recently was more precise.

"Cartons, cases, and 'few-bottle' sales in the grocery stores," he stated, "account for 35% to 40% of our total sales."

III. Same Coke, New Bottles

These sales figures are one of the reasons why last week marked the end of an era of no-change in Coca-Cola. The company is now embarked on steps to meet new buying habits and patterns, to find out whether additional changes will be necessary over the coming year or so. Here's what's happening:

A week ago, Coca-Cola began introduction of the new 26-oz. family size and the 10-oz. king-size bottles in a limited number of markets in the East, Midwest, and Far West. Both bottles still have the traditional Gibson Girl shape (picture). The king-size one made its bow in Boston and Columbus, Ohio, while the family size (roughly one-fifth U.S. gallon) was introduced in Springfield, Mass., and slated for four California areas—San Francisco, Oakland, Hayward, and Pittsburgh. But a strike of clerks has hit independent grocers in the San Francisco area and Coca-Cola is holding up the debut, until it's over. Other tests will soon be announced by the company, including trial of a 12-oz. bottle in the Midwest.

• **Why?**—Chief reason for the test, according to H. B. Nicholson, is to find out if a larger bottle is needed, whether it will have public acceptance, and just what size will be best. But at least one other reason may have been behind the company's thinking: A bigger bottle might ease some of the materials-handling complaints from retailers.

The 10-oz. size still comes in the six-bottle carton, the same as the 6-oz. bottle; the family size is sold separately. Price is up to the individual bottler.

This week in Boston and Columbus, which are nickel Coke areas, the 10-oz. king size was retailing one for 7¢ and six for 35¢ (plus a 2¢ deposit on the bottle). In Springfield, the 26-oz. family size retailed two for 31¢ with a deposit of 5¢ on each bottle.

It will take months of market research before Coca-Cola makes up its mind whether to go all-out on the new sizes or on which size to concentrate. But in any event, the company will continue its 6-oz. size as its standard container. There's no movement toward dropping it in favor of the larger size.

IV. Cans vs. Bottles

Coca-Cola is still experimenting with cans. Company research has been going on ever since cans became a possibility in the soft drink field. But some of the major troubles are yet to be licked. One trouble is trying to find a liner that doesn't distort flavor. Overcoming the technical problems, though, seems inevitable—eventually.

Coke men tell you frankly, however, that they have not licked the can problem yet. The liners still corrupt the flavor, or the pressures give retailers problems. "Cans will come," they say, "but not for some time yet."

Experiments thus far—and Coca-Cola has been experimenting with cans for three or four years now—have shown that you may be able to put Coke into a can but what comes out later isn't Coca-Cola. It's a soft drink, non-toxic, but with a flavor that's as far removed from Coca-Cola as ginger ale is from India Ale.

• **Cost Problem**—Though canned soft drinks have many materials-handling advantages over their bottled counterparts, their chief stumbling block still remains the economics.

It is Coca-Cola's view that few customers would pay a premium price for the privilege of buying soda pop in cans. With present costs, a 12-oz. can would probably represent a loss at anything less than 15¢. Figured on the basis of a bottle that makes a couple of dozen round trips against the can's one-way voyage, a can costs the bottler 12 times as much as a bottle, to say nothing of the conversion costs of present bottling plants.

There's an interesting sidelight to the economics of the can versus the bottle. One of the biggest points against the can is the very fact that Coca-Cola has been able to hold the magic 80¢-a-case wholesale price in some areas. (The retailer resells the case of 24 for \$1.20, at a nickel a bottle.) In areas where the old 80¢ price still holds, Coca-Cola bottlers note, the



Anyone can build a bridge...

Given blocks, even Bobby can build a bridge.

But Bobby's bridge doesn't present the problems that full-size bridge building does. He doesn't have to bother about stresses and strains, or future traffic growth. Neither does he have a budget to consider.

It's problems like these that beset today's bridge builder—the engineer. And there are so many more bridges than there used to be! Once, bridges crossed only water—streams, rivers, inlets. Today, bridges are also used to cross over whole towns, cross other highways, cross sharp ravines. Any new highway is apt to have so many bridges that they will account for nearly a third of the highway's cost. To keep the cost of highways down a way has to be found to minimize the cost of the bridges.

And it's the engineer who finds the way to do it. Using new materials and new construction, creating more efficient designs, he has evolved entirely new types of bridges—bridges that are stronger, that carry heavier loads; yet bridges that use fewer materials, cost less to build.

Finding better, faster, less costly ways to do things is the special province of the engineer—the man, who, in large measure, has been the pace-setter of civilization as we know it. Remaining always the individualist and creator, the engineer works with civil authorities, private owner, contractor and financier—and supplies the "how" that paves the way for the *collaboration* that creates "miracles"—super highways, super cities, super factories, super airports, super everything to make our lives ever easier, ever more pleasant, ever more safe.



Gannett Fleming Corddry and Carpenter, Inc.
Harrisburg • Pennsylvania
PITTSBURGH, PHILADELPHIA, DAYTONA BEACH
Engineers



“WHY . . . why does it cost us so much to make this?”

How many times have you asked this question? A simple part, an assembly or a finished product—why should it cost so much to make? Why? Maybe one answer is so obvious it's being overlooked.

This may be an answer:

● Invisible cracks developing in parts during manufacture are too often the cause of these high costs. It isn't the cost of the rough parts themselves. It's the time and labor that go into them . . . setting up, machining, finishing . . . all to be scrapped at final inspection.

You don't have to accept this loss as “fixed.” Inspection with Magnaflux during manufacture

finds *all* cracks when they first occur—suggests the cause and how it can be corrected—*before* parts are run in quantity. Before the bad ones raise your product costs to the point where you ask “Why?”

Ask to have one of our engineers show you how inspection with Magnaflux can save you money—or write for new booklet on **LOWER MANUFACTURING COST.**



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MAGNAFLUX

and has been going hard after the on-premises business.

VI. Vending Machines

There is still one more point at which Coca-Cola, for the moment at least, seems to have lost its touch—the vending business.

The irony here is that Coca-Cola was a major force in the development of the automatic vending industry in the U.S. For years, the red machine that delivers a chilled Coke for a nickel—or a dime nowadays—has been a national institution. Through these machines, and through the simpler and coolers that open on the top, Coca-Cola next to cigarettes and toiletries has become one of the most widely distributed commodities in the nation.

• **Behind the Times**—But Coca-Cola has failed to keep up with the times. The industry notes that Coca-Cola has lost considerable ground by ignoring the new cup-vending machines. The company's bottlers are just beginning to take an interest in these new devices.

Since the company is reticent on this point, the cause of the trouble is somewhat murky. Trade observers in New England, however, lay it partly to the company's refusal to offer more than one flavor of drink. Cup-vending machines generally offer about four different soft drinks. The Coca-Cola bottlers have been slow to make tie-ups with other operators.

As a result, Coca-Cola is losing out in the important new area of in-plant feeding through automatic vending.

VII. Management Changes

Whatever happens at Coca-Cola, there will probably be no sharp break with the past. For one thing, most Coke policies are too deeply ingrained to change quickly. For another, Woodruff will be around for a long time to come.

• **Close to Heart**—To Woodruff, Coca-Cola is a family affair. His father, Ernest Woodruff, headed the group of Atlanta businessmen who bought out Candler. In 1923, son Robert, at 34 years of age, left a job as an executive in White Motor Co. to become president of Coca-Cola.

There's no denying that Woodruff has had more influence on the policies, management, and growth of the Coca-Cola Co. than any other man in its history. His first loyalty was to the product, which he insisted must maintain its same uniform quality. That's why Coke maintains extensive quality control labs. He is also largely responsible for the fact that Coke has never made another consumer product. It sticks to the manufacture of syrup only. It makes no dispensers, bottles, con-



The Select-O-Matic mechanism is available as the self-contained Library Unit or as the Custom Unit for built-in installation.

How Seeburg Work Music Works



Seeburg Background Music Library. Scientifically programmed for work and atmosphere use. Includes monthly refresher service. Manufactured for Seeburg by RCA Victor Custom Record Division.

Work music has proved a vital force to industrial and commercial businesses everywhere. *Seeburg work music*, you will agree upon investigation, is the most efficient, practical and economical method bringing the benefits of music to your business.

The Music. Every selection has been carefully arranged, scientifically programmed and recorded "live" by outstanding orchestras. The library is mastered and pressed to exacting high fidelity standards (30 to 15,000 c.p.s.) on 45 RPM Extended Play discs of pure virgin Vinylite.

The High Fidelity System. Nucleus of the system is the famous Select-O-Matic mechanism that is completely automatic in its operation, no attendants are required. All components, in-

cluding the pre-amplifier; genuine diamond stylus pickup, power amplifiers and specially designed Seeburg speakers are high fidelity all the way for the ultimate in musical reproduction. The system also provides for paging and public address.

Use With Existing Sound Systems. If you have a sound system, you'll be glad to know how easily you can add Seeburg Background Music Service.

The Seeburg Plan. The high fidelity equipment is furnished on a LEASE-PURCHASE agreement whereby your monthly payments apply toward eventual ownership of the entire sound system. The Seeburg Background Music Library, including a monthly refresher service, is available at a separate monthly rate.

J. P. Seeburg Corporation, Chicago 22, Ill.

Please send data on Seeburg Background Music

Name.....Title.....

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Address.....

City.....Zone.....State.....

WORK AND
ATMOSPHERE



SEEBURG
Background Music Service

J. P. Seeburg Corporation, Chicago 22, Illinois

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tainers, or other merchandising appliances or machines.

• **Always Details**—Woodruff's policy of a single product has kept Coca-Cola on the right track and ramrodded it into leadership in the soft-drink field—a position that Woodruff and all Coca-Cola men feel keenly. Their appreciation of the No. 1 spot in the business is almost a religion.

You can see Woodruff's influence in company advertising, for example. He set the policy that Coke advertising must never be competitive, offensive, tricky, or brash.

• **New Blood**—The picking of Robinson, an outsider, has more logic in it than appears at first sight.

To begin with, there is a close personal tie between Woodruff and Robinson that goes back some years, before Robinson joined the Hannagan concern. Like Hannagan before him, Rob-

inson spent considerable time in Atlanta servicing the Coke account. (While there he also gained nationwide renown as a golfing partner of Pres. Eisenhower.)

Furthermore, Robinson is essentially a sales and marketing analyst. He was on the advertising and merchandising side of New York newspapers before going with the N. Y. Herald-Tribune in 1936, where he was advertising manager for many years, then publisher. Insiders say that Woodruff felt it was time for a marketing man to head the company—since he himself held the job, Woodruff felt the company needed a top-notch salesman, and Robinson fitted the bill.

Nicholson, the new board chairman, was president of the company for two and a half years.

His first executive job with Coca-Cola was as vice-president and treasurer,

from which he moved up to president.

• **Strong Points**—The new team takes over a thriving company, regardless of its current market problems.

Right now, there are about 1,100 domestic bottlers of Coke and about 500 foreign bottlers. All but about 5% of the domestic bottlers are independent businessmen, operating under a perpetual contract with the "parent bottlers."

Today, Coca-Cola is manufactured and sold virtually throughout the world. In 1953, the company reported record net sales to the Securities & Exchange Commission of \$251.2-million. (This represents the sales of its subsidiary bottling companies as well as sales of syrup to independent bottlers and distributors.) Net income was \$28.2-million, down from the record peak of \$37.7-million in 1949, which reflects the cost squeeze on the soft-drink industry.

Putting New Entries in the Field

● Of the scores of products that have hit the market since the war, only a small percentage have made the grade.

● But longer leisure hours and better-lined purses are creating a demand for wares that hardly existed 10 years ago.

● That's why industry is staking its biggest research budget in history to find out what gadget-hungry America wants.

Since the war, industry has spent untold billions to persuade the consumer that there is indeed something new and that he should buy it. As a result, the words new products today have a magic they have never had before.

Last week this urge for the new crystallized in a seminar in New York City, conducted by advertising agency Hilton & Riggio, Inc. Here 250 executives of companies as various as Quaker Oats Co. and Radio Corp. of America paid their own way to hear questions like these discussed: How do you design a new product? Should you buy into a new line, or develop it yourself? How does an industrial producer move into consumer lines? What makes the consumer go for some ideas and turn down others? How can the retailer cope with all the new "miracles"?

Even government is in on the game. Keynote speaker last week was Wendell B. Barnes, Small Business Administrator. He told about his agency's Products Assistance Program. This project, in the making for about a year, was officially announced only last week. The program aims to provide a clearing-

house for small concerns for information on product development and marketing.

• **Definition**—From the discussion last week, it was plain that new products mean different things to different people. In a few cases, they mean the obvious: products that have never been sold before.

More often when people talk about new products they mean simply a better or cheaper version of something already on the market. Sometimes a new material makes an old product new—as happened in nylon hose. Sometimes a new product is merely one that a particular company has never made before. Thus, for Cluett, Peabody & Co., Inc., boys' shirts constituted a new product. Occasionally it is the market that is new. An instance of this is Reynolds Metals Co.'s adaptation of its aluminum for a consumer package (BW—Oct. 31 '53, p. 54).

Whatever kind of new product you are talking about, the problems are formidable. An amazingly small number make the grade.

• **Stumbling Blocks**—Hilton & Riggio

underscored this fact in its first seminar a year ago. This agency, which specializes in putting over new product programs, made a survey of about 200 of the largest companies marketing consumer packaged goods. These concerns reported that out of all their postwar efforts, only 19% of their new products had succeeded.

One of the main reasons for failure, the agency found, is too great haste—to beat a competitor or to steal his thunder if he made it first (color TV might be a case in point here). This haste sometimes means poor design.

Faulty pricing can be an important stumbling block. One manufacturer test-marketed a new product some years ago. It was a crashing success at \$1 per unit. On the strength of this, the company upped the price to \$1.50. The product flopped.

The plain orneriness of the consumer sometimes blocks a good idea. At the seminar, Dr. Ernest Dichter, consulting marketing psychologist, cited the housewife's early hostility to cake mixes: she considered them an affront to her own culinary skills, he said.

• **Percentage**—The great bulk of industry brings out a new product too infrequently to evolve a true science of new product development. Hilton & Riggio queried over 1,000 concerns to find out how often they introduced new products. Here are the answers:

18.5% once every 10 years.

23.9% once every 5 to 10 years.

36.1% once every 3 to 5 years.

14.2% once every 1 to 3 years.

7.4% at least once every year.

• **Stakes**—The skimpiness of information on the whole new product field partly explains the interest in such pro-

grams as Hilton & Riggio's. But it only partly explains why industry has plunked an estimated \$9.5-billion in research in the past eight years—twice as much as it spent in all its previous history.

First, we are a nation of gadgeteers, lacking in hide-bound tradition. Second, the shift to the suburbs, longer leisure hours, and other changes in our pattern of living make consumers aware of needs they often hardly felt before the war. Best of all, the mass market has a well-lined purse to supply these new wants—and after the long product-drought of the wartime years it is in the mood to spend.

Yet the economic pressure today would push manufacturers and merchandisers into new product selling regardless of the consumer's frame of mind. With our present huge productive capacity, there is bound to be what Victor Lebow, marketing consultant, calls a "pressure toward consumption." Persuading the consumer that there is something new under the sun is one way to keep him consuming.

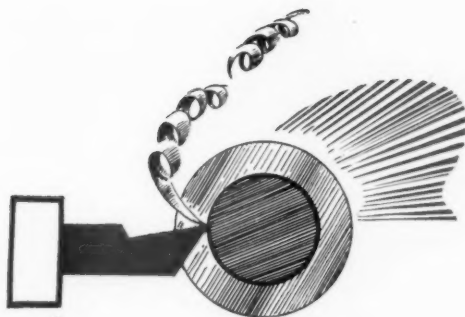
• **Obsolescence**—Wendell Barnes has pointed out that this comes down to the now familiar catch phrase, "controlled obsolescence." The Paris designers have practiced this for years. Today even farm machinery makers such as International Harvester Co. have caught the fever (BW—Dec. 18 '54, p112.)

Barnes told of a particularly effective form of controlled obsolescence that occurred back during prohibition. A New Orleans boat builder sold a speedy river craft to revenue agents to catch bootleggers. Then he sold a speedier craft to the bootleggers. This created a far from vicious circle for the builder's benefit.

• **Fast Way Up**—Sometimes—if you have a big enough advertising budget—it is easier to increase sales via a new product than through added promotion of old ones. That, says a Colgate-Palmolive Co. spokesman, explains why a soap manufacturer will bring out one competing brand after another in nearly identical lines.

• **Independent Market**—Hilton & Riggio notes another factor that pushes some companies into new lines: a "compelling desire not to be dependent on war business." A good case in point is Raytheon Mfg. Co., which last year put on a lot of steam behind consumer selling (BW—May 15 '54, p114).

Industrial suppliers today feel a constant urge to win better control of the market by getting closer to consumers. That was the main motive behind Hudson's move into wider consumer lines. Reynolds Metals made a similar point last week. By selling aluminum to consumers, it felt, it could boost industrial sales, too.

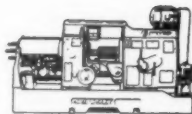


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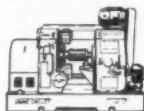
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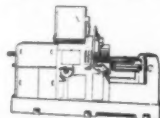
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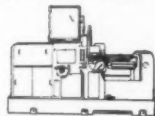
BAR AUTOMATICS
4 Spindle — 7 sizes; 1 to 7½"
6 Spindle — 9 sizes; ½ to 6"
8 Spindle — 6 sizes; ½ to 4"



CHUCKING AUTOMATICS
4 Spindle — 2 sizes; 10 and 12"
6 Spindle — 4 sizes; 3½ to 12"
8 Spindle — 2 sizes; 6 and 8"



TURRET LATHES
(Bar-Type — Fully Automatic)
Single Spindle — 3 sizes; 3½ to 3½"



TURRET LATHES
(Chuck-Type — Fully Automatic)
Single Spindle — to 12" cap.



CHUCKING AUTOMATIC
Single Spindle ("Chuckmatic")
To 12" capacity

Management decisions regarding the purchase of new equipment are, and rightly so, reflecting an awareness of the fact that there are many areas of operation—other than actual machine design—which affect machining costs.

Machine performance, for instance, is being studied more closely in line with *the job to be done*. The buyer is becoming increasingly more conscious of the need for sales, service and engineering help—*when he needs it*. He is taking a closer look at the machine he is considering, in relation to the advantages of "operator familiarity"—will there be plenty of experienced help available.

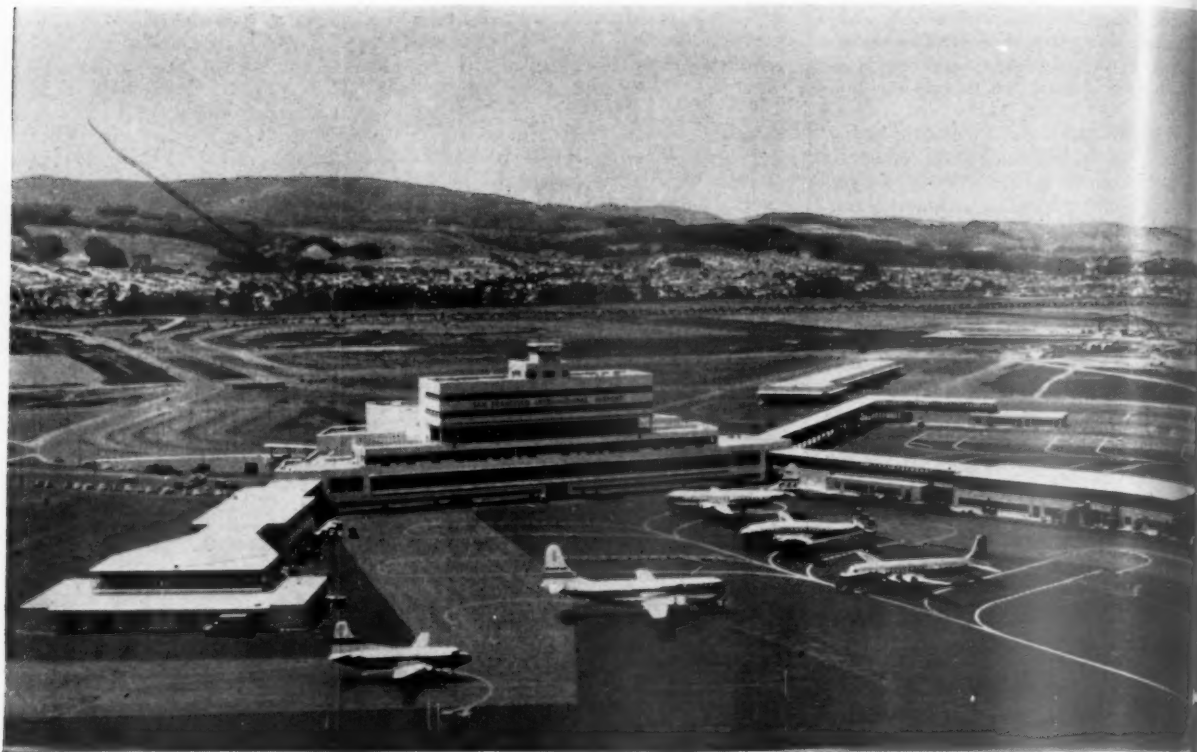
Analyzing his problem and evaluating these important considerations, he usually finds *more* of the right answers at National Acme.

National Acme's experience in the design and manufacture of nearly 50,000 multiple-spindle bar and chucking automatics and fully automatic turret lathes provides a background of experience and versatility not to be found in less comprehensive lines of machines. This combination of the *RIGHT* machine backed up by experienced and responsible engineering assistance is hard to beat.

May we talk it over with you?

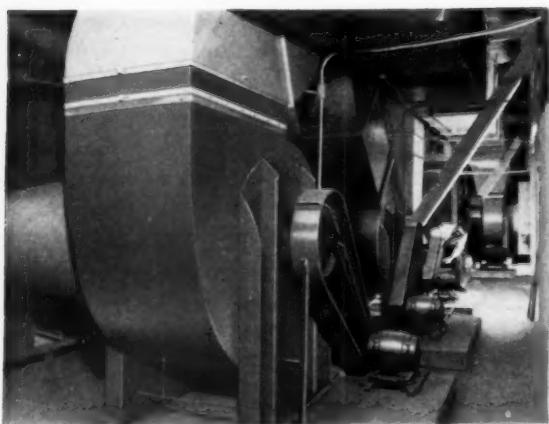
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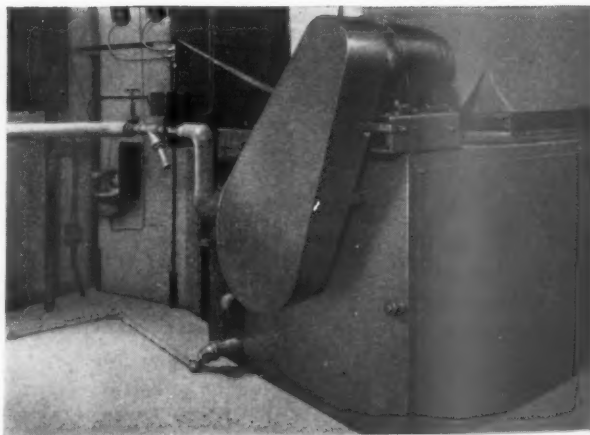


American Blower Supply and Exhaust Fans help to create an ideal indoor climate in modern Terminal Building at San Francisco International Airport. Architect: W. P. Day, San Francisco. Mechanical Contractors: Anderson & Rowe, Inc., San Francisco.

Why San Francisco Air Terminal



Powerful, quiet-operating American Blower Supply and Exhaust Fans circulate filtered air through Terminal.



Ventilating system also includes American Blower Heating and Ventilating Units (above), Heating and Cooling Coils, Utility Sets.

Serving home and industry: **AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL**

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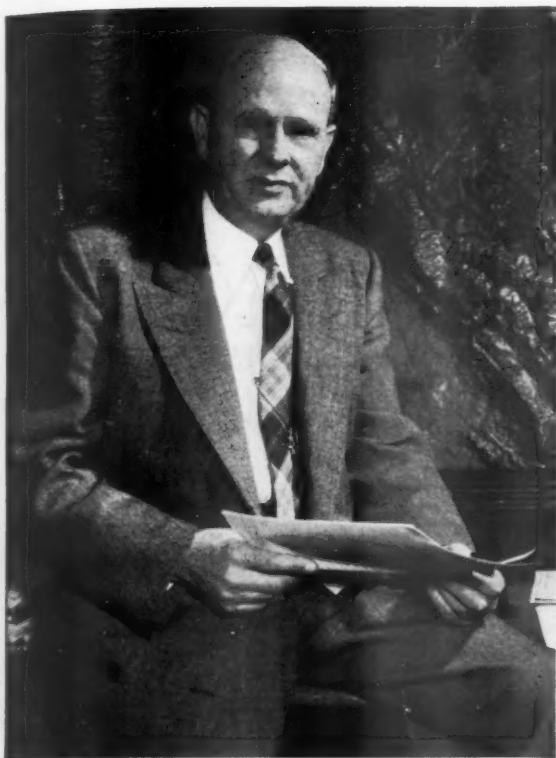
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TILE •



Geo. D. Burr, San Francisco Utilities Commission Design Engineer for airport, tested American Blower Fans; rates them "excellent."



Clyde E. Bentley, consulting engineer says "American Blower Fans are dependable; meet conditions required for top performance."

uses American Blower Fans

New \$14 million Air Terminal Building accommodates up to 16,000 passengers a day—in comfort, thanks to powerful American Blower air-handling equipment!

SAN FRANCISCO's new International Airport is the nation's third largest, accommodating up to 16,000 passengers a day in its modern six-story Terminal Building, concourse and food-service areas—which include two restaurants, a cocktail lounge and cafeteria.

Refreshing Atmosphere Maintained

Yet, even when traffic is heaviest, the indoor climate in the airport terminal is refreshing and pleasant. For engineers have seen to it that stale air is continually exhausted—and replaced with country-fresh air from outdoors.

Plans called for a ventilation system to service the entire airport—one that would supply an even flow of filtered fresh air, and at the same time give efficient, quiet performance with low upkeep. American Blower equipment was chosen for this important job on the basis of quality and performance.

Fifty powerful American Blower Fans are used in the system, with about 1000 air outlets. Thirty-four fans service the Terminal Building with its main waiting room and offices—a total of 317,000 sq. ft.—and together have a capacity of

265,000 cfm. Seven American Blower Fans are used to ventilate the concourse, which has a floor area of 150,000 sq. ft. Nine others are used to circulate fresh air in the food-service areas.

Call on American Blower

American Blower Fans are used extensively in business and industry for ventilating, air conditioning, drying, heating, fume removal and processing systems. If you'd like the complete story on American Blower air-handling equipment, give your nearest American Blower Office a call, today.

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Pencils Turn Ballpoint

Parker and Scripto lead rush to liquid pencils . . . Old Crow wins straight championship . . . Colgate loses round in squirt shave case . . . Pocket Books takes ads . . . Auto dealers get more aid . . . Trading stamps hit trouble.

Now it's ballpoint pencils.

Parker Pen Co. broke the news recently via ads in consumer magazines, announcing that it is coming out with a Liquid Lead pencil. No sooner had the Parker ads appeared than Scripto, Inc., hit the New York market last week with its version of a ballpoint pencil, Fluidlead.

What the Parker ads had done was to break open a close-to-the-vest game of marketing strategy that the major pen and pencil manufacturers have been playing for many months.

Actually, the ballpoint pencil—which works on the same principle as a ballpoint pen except that it contains a fluid that makes a pencil-like mark on the paper and can be erased—has been kicking around in the laboratory for some time. Several manufacturers have similar models ready—or nearly ready—to market.

But until Parker jumped the gun no one wanted to be the first to come out with the new pencil. Everyone was afraid the novelty of the ballpoint pencil would steal sales of ballpoint pens and regular mechanical pencils.

Parker based its decision to break the news publicly in an effort to establish itself in the new market early. Parker sources privately admit the company got left at the gate in the marketing race over the ballpoint pens that have flooded the market over the past couple of years. Parker didn't come out with a ballpoint pen until last year.

Scripto, which has been playing the waiting game along with other manufacturers, thinks its product has some advantages over Parker's and others. Instead of using a graphite suspension, Scripto's Fluidlead claims a secret formula that the company says won't deteriorate or separate in storage as graphite suspensions tend to do. This formula was worked out for Scripto by the Hungarian scientist Frank Seech, who is credited with developing the non-smear ballpoint ink for Papermate's "banker-approved" ballpoint pens. Scripto says it is already shipping Fluidlead pencils at a rate of 30,000 a day.

Scripto, the first to bring the new pencils out, and Parker, whose ballpoint will hit the market about mid-April, undoubtedly will have lots of competition soon. The new pencils will sell

competitively with regular mechanical pencils—Scripto's is priced at 49¢ and up, Parker's will start at 30¢.

Old Crow is the top selling unbonded straight bourbon on the market. Two distillers—National Distillers Corp. for Old Crow and Brown-Forman Distillers Corp. for Early Times—claimed the title. Last fall the Internal Revenue Service's Alcohol & Tobacco Tax Div. handed the award to Early Times (BW—Sep.25'54,p122). Asked to rule again, A&TTD found last week that Old Crow is now in first place.

A Baltimore judge's decision last week may throw the whole aerosol shave cream business into a battle royal over patent rights.

Federal Judge William C. Coleman issued a preliminary oral ruling that held that Colgate-Palmolive Co., its distributors and retail outlets, had wrongfully used trade secrets belonging to Carter Products, Inc., in making its Rapid Shave aerosol product. Carter's Rise, the first squirt-shave on the market, was developed by a research laboratory in New York several years ago. At the recent colorful eight-week trial of Carter's patent infringement suit against Colgate it was brought out that the same chemist who worked on Rise left the New York research outfit to go with Colgate, which then developed its own squirt-shave. The chemist, Norman Fine, had signed a contract to keep the Rise process secret.

Coleman held that Colgate had used Carter's secret formula, developed by Fine. But the real significance of the Carter-Colgate court fight hasn't yet been resolved. Until Coleman issues his written opinion, Carter's claim that it still holds a basic patent on the entire aerosol shave process idea—used by the eight aerosol shaves now on the market—hasn't been answered. Coleman spoke of "trade secrets," but did not use the phrase "patent infringement" in his oral opinion.

Ad space is now being offered by Pocket Books, Inc. The first of the

paper-backed book publishers to open its pages to ads, Pocket Books will offer its second and third covers, also color inserts for coupon advertisers. First Pocket Book advertisers are Time, Inc., Music Treasures of the World, North American Accident Insurance Co., and Round-the-World Shoppers Club. Pocket Books have been carrying book-club advertising as a test, say they haven't received a reader complaint.



A New York furniture chain—Sachs Quality Stores—hired Madison Square Garden for a giant sale last week (picture, above). Sachs took its cue from a local carpet company that did the same thing two years ago to clear inventory (BW—May30'53,p26). But Sachs was more interested in publicity than in clearing stocks; in fact, much of the merchandise featured included new styles and models shipped direct from the manufacturer. The sale also featured bargain values, but price as such wasn't stressed.

Prepackaged produce—fresh vegetables and fruits packed in moisture-proof protective coatings of cellophane or plastic—now accounts for about 30% of the produce market. This is the estimate Agriculture Dept. packaging expert Donald Stokes gave United Fresh Fruit & Vegetable Assn. convention in New York last week.

Two more auto manufacturers have liberalized their franchise agreements with their dealers—one to put dealers in a better frame of mind, the other to put more money in the dealers' pockets.

Ford Motor Co., making the first major changes in its franchise agreements since 1939, has written in an "heir" clause along the lines of that adopted by General Motors (BW—Jul. 17'54,p43). Under Ford's plan, a dealer, while alive, has to nominate his successor, who must be active in the management of the dealership. If the dealer dies or resigns, the heir will get a one-year trial franchise.

American Motors Corp. has written in a profit-sharing plan for its Nash and Hudson dealers. The company puts money into a fund as the dealers order cars. At the end of the model year the pot is split and each dealer shares in proportion to his contribution to the total sales of his division (either Nash or Hudson). All dealers share funds accruing from Rambler sales.

Opponents of trading stamps are trying out a new legal weapon against the little coupons.

The state of New Jersey recently filed suit against Sperry & Hutchinson, Inc. (biggest stamp company in the business), under the state's escheat laws—which provide that unclaimed property can be taken over by the state after certain periods of time.

The New Jersey attorney general based his escheat action on the grounds that many people do not redeem the trading stamps given them by retailers—in other words, they don't send the stamps in to get their merchandise premiums.

Since the stamp companies sell the stamps to the retailers in the first place, the Jersey suit contends, if a stamp is not redeemed for merchandise its cash value represents unclaimed property. If stamp companies had to give up these profits, some companies might be put out of business.

Sperry & Hutchinson's president, George Schirer, quickly issued a statement hinting darkly that the Jersey suit was not all the attorney general's idea. In an obvious reference to Safeway Stores, Inc., which has been waging a series of court battles against the use of trading stamps by other retailers, Schirer said that whether or not the escheat laws apply to trading stamps the Jersey suit "would, if successful, in effect be in the interests of large-scale operators who don't like the competition of the small retailer who gives his customers stamps as a discount for cash."

Safeway, which maintains it had nothing to do with the Jersey suit, shot back a hot retort by its president, Ligan Warren: "Hog wash." Warren charged that the anti-trading-stamp fight is being carried by associations of little merchants.



"What happened to our lights, Daddy?"

"That's an easy one to answer, son. I had the same idea the first time it happened to me. Our headlights are the same. It's the road that makes it seem as if we have much less light."

"It works this way. We were driving on light-colored concrete. We could see a long way because the concrete *helped* our headlamps by *reflecting* the light. This dark-colored road absorbs most of the light—makes it more difficult to see what's ahead."

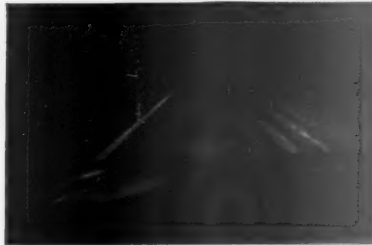
"Illuminating engineers—the experts on this subject—have measured this reflection with scientific instruments and found that concrete reflects about four times more light than dark pavements. That's why it's safer to drive on concrete at night—when most accidents occur. You see people, animals, curves and obstacles sooner. This gives you more time to slow down or stop in emergencies. *Remember, son, if you can't see you aren't safe!*"

"Concrete roads are safer, too, because your tires grip and hold to its gritty, skid-resistant surface better, *especially in the rain*. I like to drive on concrete roads because it's much safer—not only for me, but also for our family, for our car and for the other fellow."

Because concrete is light-colored your headlights illuminate the road the maximum distance ahead.



Light from the same headlights is absorbed by a dark pavement surface. To be safe, you must see!



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REGIONS



DRY EARTH of Navajo reservation in Arizona-New Mexico could be turned to farmland with proposed dam to irrigate 125,000 acres. Navajo holdings actually are bigger than the state of West Virginia, but land is waterless, and the nation is poor. Indians are strong backers of plan to develop Upper Colorado basin, particularly the place that calls for \$179-million irrigation dam on San Juan River in Navajo territory in New Mexico.



TREATY SIGNING reenacted pact with Gen. Sherman in 1868, was part of day-long ceremony



TRIBAL COUNCIL met at Window Rock council house, pledged \$10,000 from tribe

Whoops, W

In the past few weeks, a plan known as the Colorado River Storage Project (map, page 58) has been: (1) pronounced about by the President; (2) chanted about by Indians (pictures); and (3) argued about by practically everyone else who has an interest, remote or otherwise, in its outcome.

All this, happening in various corners of the country, is just one more stage in the turbulent debate that has swirled around the Colorado River Storage Project since plans for it were

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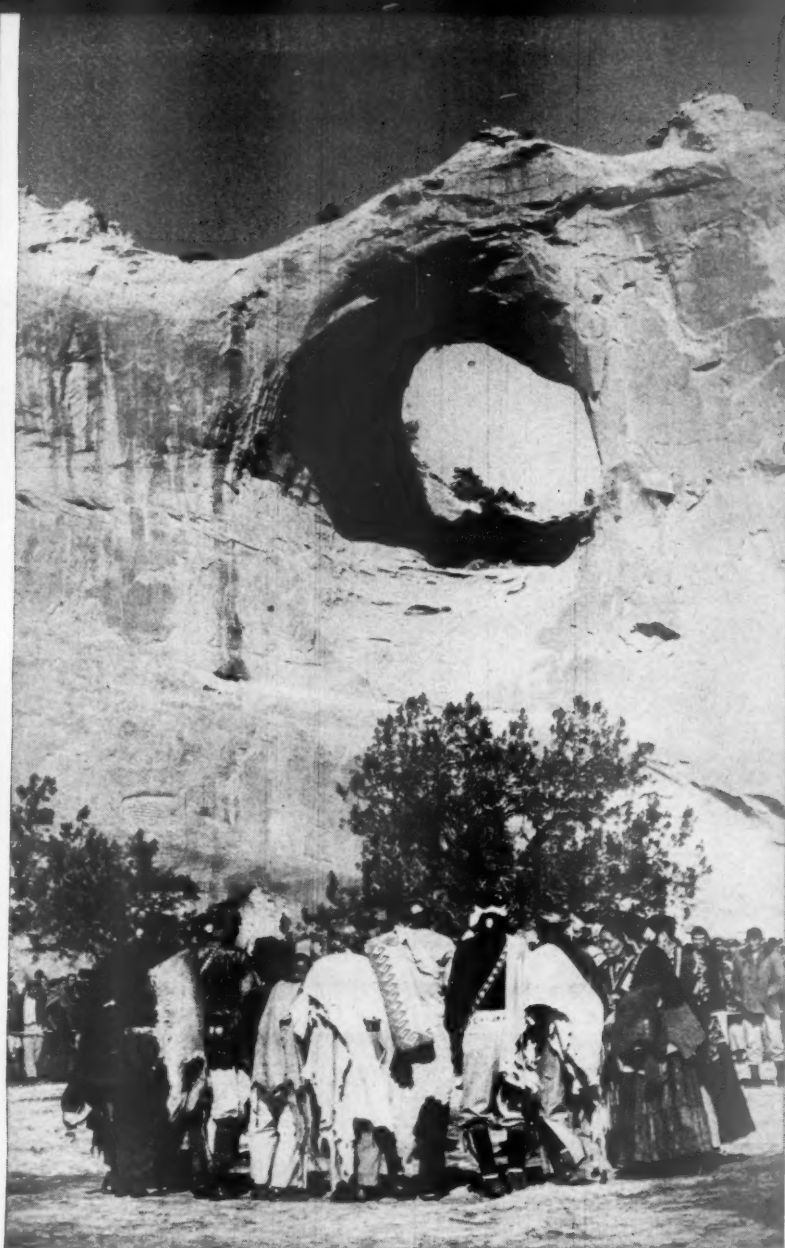
BUSIN



ceremonies at Window Rock, Ariz., to publicize need for dam and water.



funds from oil royalties and uranium exploration to campaign for basin development.



WAR DANCE called Enemy Way was first since treaty with U.S. Enemies are "misinformation and selfish motives" of those opposed to dam plan.

Wampum Back Colorado Plan

first uncovered in 1950. The President's budget message last month, urging Congress to authorize the start of part of the project, simply roiled the waters again.

The fight over the big dams of the Colorado plan is not the usual one, in that there is no public-private power issue involved here. What is involved, though, is a red-hot controversy that centers around two contentions:

- That one phase of the project—the construction of Echo Park Dam—

would destroy a national monument and set precedent for the "invasion" of other national parks and monuments.

- That the over-all plan would deprive some of the Colorado's lower basin states, notably California, of part of their water supply and is likely to impair the quality of the water.

- Counterattack—This week, as the debate sharpened, backers of the project laid plans to counter these arguments. In four states along the river, a citizens' organization called the Upper Colorado

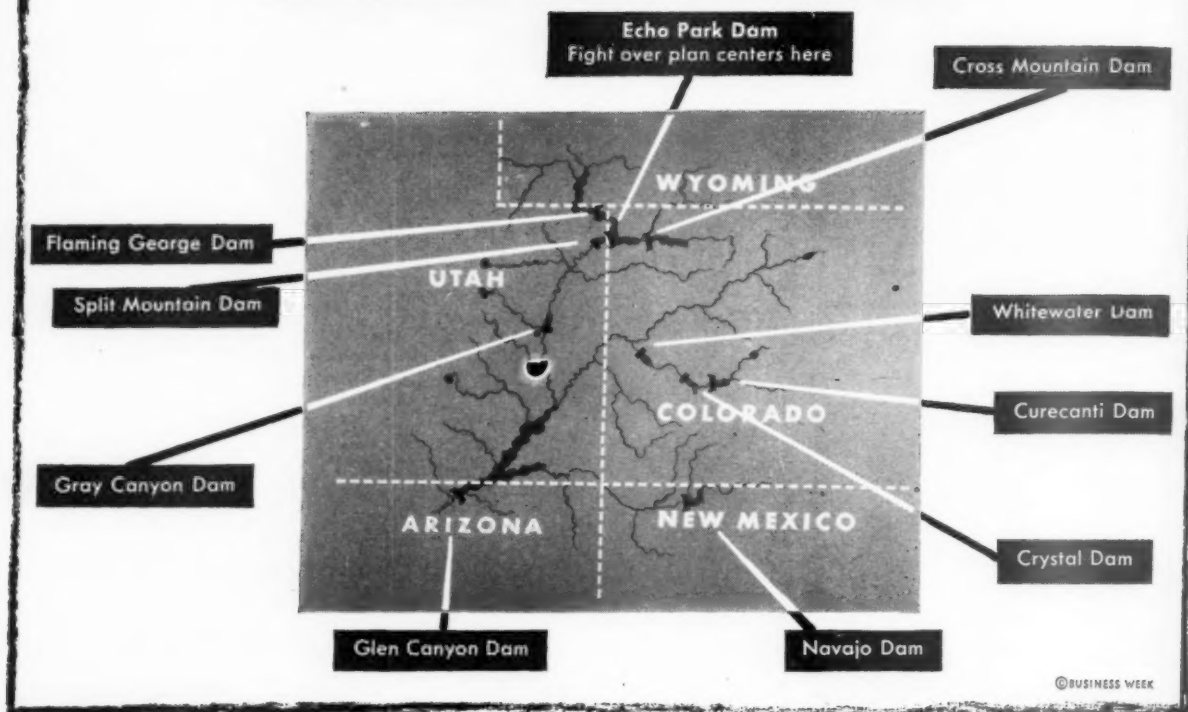
River Grass Roots, Inc., will sponsor a Colorado River Week starting Feb. 13. Residents will be asked to contribute (\$1 and up) to an information campaign and to write their friends to support the project.

Whatever its outcome, there seemed little doubt that there would be many more of these moves and countermoves before the fate of the plan is finally decided.

If the Colorado is one of the most debated-about rivers in the U.S. today,

Upper Colorado River Plan

Ten Big Dams to Put Its Water to Work



it is also one of the most inaccessible. Rising in Colorado, it flows into Utah, where it picks up the Green River and the San Juan, then cuts a twisting path through the Grand Canyon, through parts of Arizona, Nevada, and southern California, finally emptying into the Gulf of California. Much of its course is through high, rocky desert land scarred by deep gorges and canyons; in parts, the land around it is uninhabited, and some of it has never been surveyed.

• **The Plan**—What the Bureau of Reclamation has proposed for the Colorado is a series of storage dams and of smaller dams, or participation projects, along the mainstream and its tributaries (map). In country where the earth is brown-dry, and where every drop of precipitation is precious, it would bottle up the river's flow to bring water onto the land for irrigation and for use by towns and cities. The cost of this overall development plan, which includes 10 big dams and possibly as many as 50 smaller projects, is estimated at \$2-billion to \$3-billion.

• **Prelude**—This is what led up to it:

In 1922, Herbert Hoover, then Commerce Secretary, brought together the four states of the Upper Basin—Wyoming, Utah, Colorado, and New Mexico—

and the three of the Lower Basin—Nevada, Arizona, and California—in a compact that divided the first 15-million acre-feet of water in the river between the two areas. At this point, there already was thought of some plan for comprehensive Upper Basin development.

The compact, a necessary preliminary, settled at least two issues: the fear of the Lower Basin states that their economy might be left high and dry, depending as it does on water originating outside the area; and the clamor by the Upper Basin states for some guarantee that when they got ready to develop their water, it would be available to them—not tied up in Lower Basin projects.

But the pact didn't settle a second vital preliminary—how the individual states would divide up the water in each basin. Not until 1948, did the Upper Basin states agree on that (meanwhile the states of the Lower Basin had sprinted ahead with their developments: Hoover, Davis, and Parker Dams, and the All American Canal). At this point, and only then, did a comprehensive basin project become feasible for the Upper Colorado.

The basic plan for this project

emerged in 1950 in a report by the Bureau of Reclamation. With one or two changes, it remains the bureau's plan today. So far, however, the Eisenhower Administration has bought only part of it, and has asked Congress to authorize only the two biggest dams and 11 participating projects. But Congress—at least its Mountain West delegation—has more ambitious ideas.

• **Two Bills**—There are at least two bills in the hopper now that would start off the development with six big dams out of the 10 originally proposed by the bureau.

One of these, sponsored by the entire Senate delegation of the Upper Basin, is identical with a bill that came out of committee last year, but failed to reach a floor vote. It calls for both the dams the Administration wants—Glen Canyon, the largest of the 10, on the Colorado River in Arizona, and Echo Park Dam at the confluence of the Yampa and Green Rivers in Colorado—plus Cross Mountain Dam on the Yampa River in Colorado; Curecanti on the Gunnison River in Colorado; Navajo Dam on the San Juan River in New Mexico; Flaming Gorge Dam on the Green River in Utah; and participating projects.

"... for the first time, the states would be able to make full use of their share of water ..."

COLORADO PLAN starts on p. 56

The other four big dams of the bureau's plan would be built later on as part of a long-range program.

• **Support-Backers** of the project contend that, with these six dams, immense progress could be made toward evening out the Colorado's flow from year to year. Water from the wet years could be carried over to provide for the dry ones. And, for the first time, the states of the Upper Basin would be able to make full use of their share of the river's water—for irrigation, for domestic and industrial use, and for hydroelectric power.

Although there has been some argument over whether the project is financially sound—it will take from 44 to 50 years to pay for itself, mainly out of power sales—this has never been the core of the fight. The clash—and it has been a noisy one—has been over the placement of Echo Park Dam and the real, or imagined, threats of what the project will do to Lower Basin water.

• **Precedent-Setting**—The site of Echo Park Dam is in Dinosaur National Monument in western Colorado. From the start, the choice has been attacked by conservationists—on grounds that the dam will ruin the monument and, worse, will set a precedent for other invasions of national parks and monuments.

Charles H. Callison, conservation director of the National Wildlife Federation, says his group opposes the dam because of "the firm conviction that big dams, reservoirs, or other engineering projects which mar the natural landscape should never be constructed within a national park or monument."

"In view of known plans and proposals for reservoir projects and various commercial or exploitative activities in other national parks," Callison says, "we contend the authorization of Echo Park Dam would set a dangerous precedent. Also we believe the unique natural features of Dinosaur National Monument are worth saving in their own right. We do not oppose the entire project. We recognize the need for additional water storage on the Colorado River and its tributaries. We recommend and urge that Echo Park be deleted from the initial phase of the project. In the meantime, alternate reservoir sites can be studied more fully."

Callison's stand—that Echo Park either ought to be dropped or moved someplace else—is the position taken

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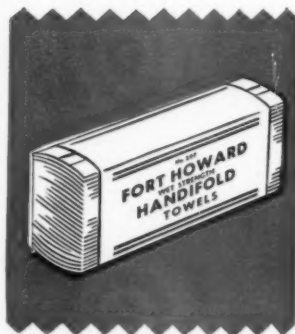
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**" . . . opponents contend
that Echo Park is actually
a power project disguised as
reclamation . . . "**

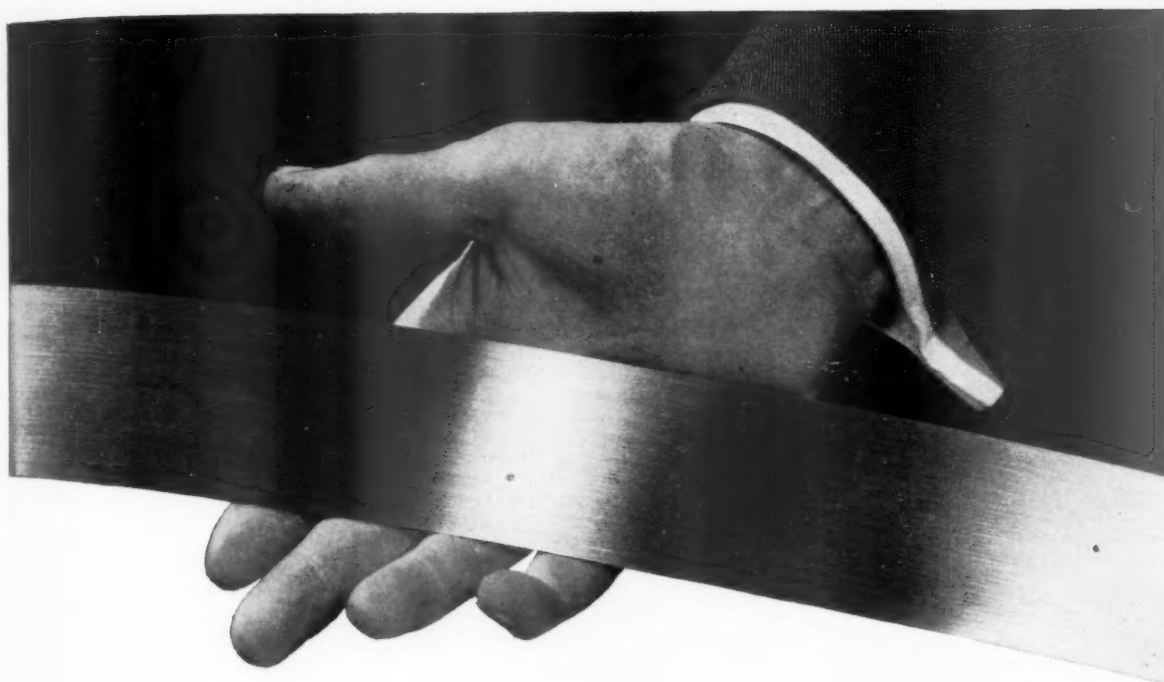
COLORADO PLAN starts on p. 36

by many conservationist groups; by organizations such as the Sierra Club, which wants the rapids in the river preserved; and by spokesmen like Maj. Gen. U.S. Grant, III, a retired Army engineer. Their protests, which started shortly after the release of the Reclamation report in 1950, prompted Oscar Chapman, then Secretary of the Interior, to ask the bureau to try to find an alternate site. The bureau did try, but said it wasn't able to find one.

• **"Misunderstanding"**—The backers of the plan for Echo Park—among them, the Upper Colorado River Commission, an organization set up by the Compact of 1948 to administer basin water affairs—feel that much of the controversy over the site has been due to misunderstanding. They say the invasion argument is weak, since reclamation withdrawal was provided for—though not at Echo Park—when the Dinosaur Monument was enlarged from 80 acres to its present 209,744 acres. (Opponents contend that Echo Park is actually a power project disguised as reclamation.) As for dinosaur bones in the park, the backers say most of them have been removed, and, anyway, the quarry is 20 mi. downstream from the damsite.

Calvin K. Snyder, manager of the Denver Chamber of Commerce and chairman of the Upper Colorado Grass Roots, Inc., says "we've got hundreds of miles of scenery and white-water rapids similar to Echo Park's." Snyder, whose Grass Roots organization was set up last December to publicize the benefits of the project and to combat "misinformation" and opposition, says "we're willing to alter a few miles of the scenery—actually improve it—to get water we must have." The members of Snyder's organization—farmers, stockmen, businessmen, and other citizens—call themselves Aqualantes, water vigilantes.

• **Chief Opponent**—The argument over what the project will do to Lower Basin water so far has been mainly one of California vs. the project's backers. The state has called for "more comprehensive studies as to what the project will do to quality of water, water supply, and operation in the Lower Basin, before the plan is authorized." Raymond Mathew, chief engineer of the Colorado River Board of California, says he fears water reaching the Lower Basin will have a greater salt content than now. California also says there are questions



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In Your Picture . . .

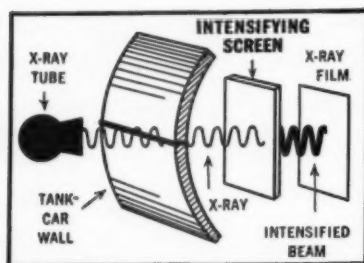


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" . . . Upper Basin states contend these fears are groundless, and that California is stalling . . . "

COLORADO PLAN starts on p. 54

about interpretation of the Compact of 1922 that must be resolved before the project gets the green light.

Up to now, the Lower Basin states have been getting more than their compact share of the river water; Upper Basin states have been able to use only about 2.5-million acre-feet a year. Northcutt Ely, special counsel for the California board, says the state is worried lest the compact, which calls for delivery to the Lower Basin of 75-million acre-feet in a 10-year period, might be interpreted to allow the Upper Basin states to withhold considerable water in dry years, then make up for it in the wet ones. (Upper Basin states contend these fears are groundless, and that California is stalling until it can put the water to use.)

California has been involved in a Supreme Court suit with Arizona over Colorado River water. It has now named the Upper Basin states as interested parties to the suit, and has asked that the project be delayed until the case is settled. California's Congressional delegation has opposed the Upper Basin plan, but reports now indicate that a split may be developing within its ranks.

• **Fair Chance**—The feeling in Washington right now is that Congress will O.K. some authorizing legislation for the project this session. Just how much it will go ahead on, though, is a question.

This is what has been proposed in bills so far:

In the Senate, the bill sponsored by the Upper Basin delegation calls for six storage dams as the initial phase of the project. A similar bill in the House, introduced by Rep. Wayne N. Aspinall (D. Colo.) for the Upper Colorado River Commission, also calls for six dams, but proposes Juniper Dam on the Little Snake River near the Wyoming-Colorado border as a substitute for Cross Mountain Dam of the bureau's plan.

Aspinall, who is the ranking Democrat on the House Interior Committee, also has a bill of his own, which calls for three dams—Glen Canyon, Echo Park, and Curecanti. Besides these, there is the Administration proposal for two dams, which presumably will be incorporated into a bill, too.

At this point, the Senate has set the week of Feb. 28 for hearings on the bills; the House committee is slated to follow a week later.



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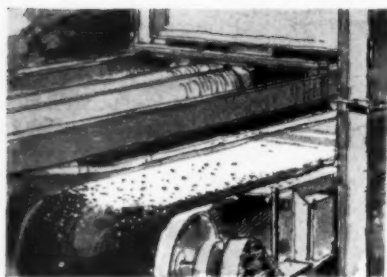


WELDING EQUIPMENT

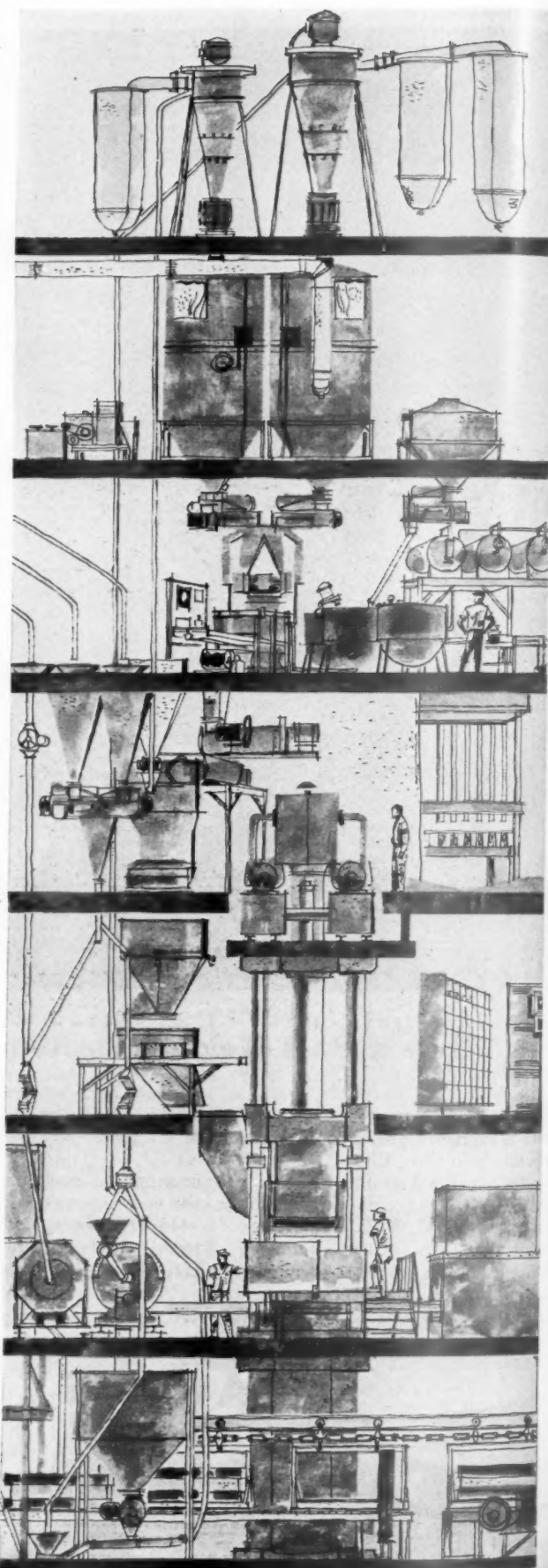


OVERHEAD CRANES

new
automatic
factory
does
18-hour job
in
4 minutes



A MOVING BELT starts ground cork on the journey that turns it into cork composition for industrial use. Mixed with binder, ground cork is compressed into mats and cured by a new dielectric method that takes advantage of the polar nature of cork and binder molecules.



Electronics and automation team up to produce better cork compositions for expanding industrial use

Today, in the Pittsburgh plant of the Armstrong Cork Company, a 7-story combination of automatic controls and electronic baking is turning ground cork into cork composition mats faster than ever before . . . and doing it better. Sheets sliced from these mats are far more uniform, make more dependable gaskets, clutch facings, and other cork products.

Cork is one of nature's best heat insulators. That's why, using steam heat, it used to take at least 6 hours of baking to set the binder of a 3-inch-thick mat. Often the outside of the mixture was "overcooked" before the center was done. Now, a mat three times as thick is baked electronically in about 4 minutes . . . 270 times as fast as the 18 hours required to bake three 3-inch mats by the old steam method.

Uniformity in mixing, too, is assured by automatic machinery that thoroughly blends ground cork with binder ingredients. Extremely sensitive equipment is needed because cork is so very light. For example, 4 ounces is the average load metered by a continuous weighing belt that's accurate within 1%.

Cork's light weight creates blending problems, too. It's difficult to make the light particles rub against each other hard enough to spread the heavier binder. A specially designed, high-speed, continuous mixer solves the problem. It pours a large amount of energy into a small amount of cork—30 horsepower into only 10 pounds of mix. Mixing

takes place under pressure in the confined area between a cylinder rotating within a slightly larger fixed cylinder. Every particle is coated with binder in 10 to 15 seconds.

To turn the mix into cork composition, it must be compressed into a mold and baked. For high density compositions, mix weighing 3 pounds per cubic foot must be compressed until it weighs 35 pounds per cubic foot. A hydraulic press three stories high does this job. On a 28" x 50" plate, it exerts pressures up to one million pounds.

After compression, the mix goes into a dielectric oven. While steam-cured cork composition varied as much as 18% in density, electronically cured mats vary less than 3%—a sixfold improvement.

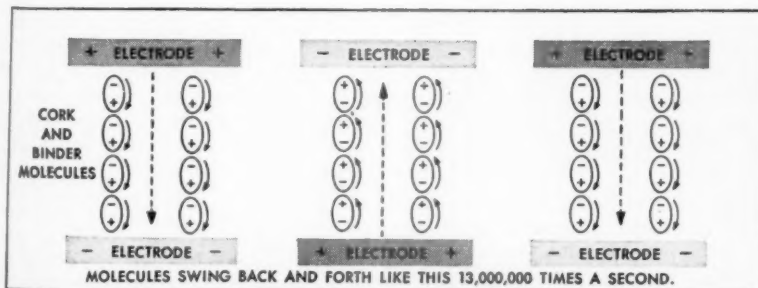
To meet the changing needs of industry, Armstrong is continually developing new, more dependable types of cork composition. Among the more important are facings for automotive and appliance clutches. For a discussion of cork as a clutch facing, send for the new 20-page illustrated manual, "Armstrong Resilient Friction Materials." Write on your letterhead to Armstrong Cork Company, Industrial Division, 8202 Indian Rd., Lancaster, Pennsylvania.



Armstrong INDUSTRIAL PRODUCTS

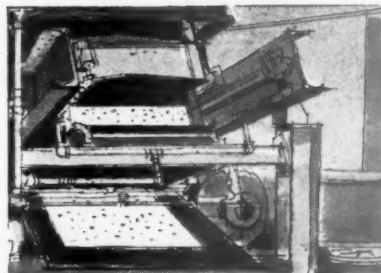
... USED WHEREVER PERFORMANCE COUNTS

adhesives . . . cork composition . . . cork-and-rubber . . . felt papers . . . friction materials



CORK AND BINDER MOLECULES are dipoles—that is, electrically positive at one end, negative at the other. When the cork mix is placed between two charged electrodes, the molecules always turn their positive poles toward the negative electrode. By alternating the electrodes from positive to

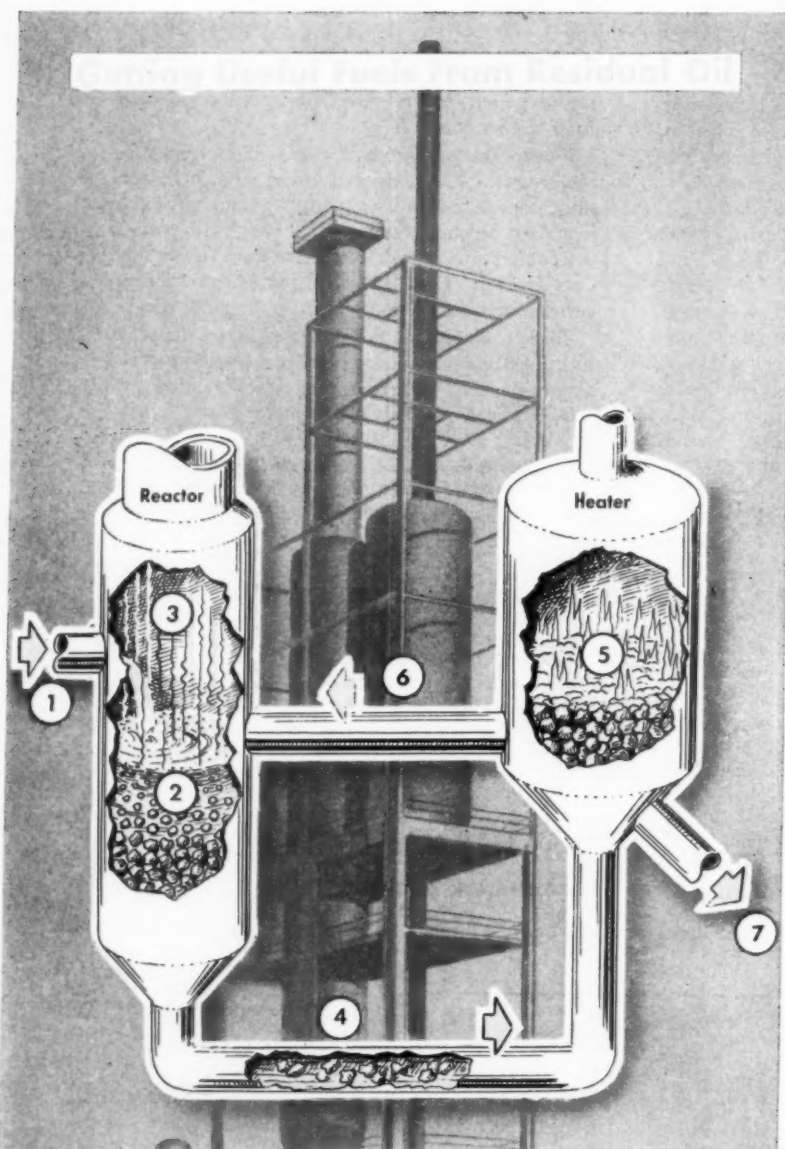
negative at high frequency (13 megacycles), the dipolar molecules are made to swing violently back and forth 13 million times a second. Friction developed between these moving cork and binder molecules uniformly heats the 9-inch-thick mat from top to bottom in only 4 minutes.



THE CURED MAT IS SLICED into sheets varying from 1/32-inch to 1-inch thick. Because mixing is precise and dielectric heating cures the mats evenly, these cork composition sheets are exceptionally uniform in density, tensile strength, compression and recovery range, and in color.

PRODUCTION

Blood From a Refinery Turnip



Residual oil (1) enters the reactor and falls onto tiny "seeds" of hot coke (2). Part of the oil turns into vapor (3), which is piped off for refining into gasoline and heating oil. The rest of the oil catches on the seeds, forming bigger lumps of coke. Finished coke (4) is transferred to the heater. Some 5% of it burns here (5), heating up the whole bed and supplying heat (6) for the reactor. Most of it eventually comes out (7) as unburned coke—a valuable industrial fuel.

The process pictured at left, developed by Esso Research & Engineering Co., will soon be a standard operation in the petroleum industry. Not only will it produce various kinds of useful fuel; it will help cut down the growing glut of residual oil—a glut that has been plaguing many petroleum marketing men.

Residual oil is a byproduct of refining. Crude oil is converted into such products as gasoline for automobiles and aircraft, raw materials for the chemical industry, and heating oils. Residual oil is what's left. It is a thick, heavy oil; it doesn't move easily through pipelines. Its markets are confined pretty much to the areas where it is produced. Furthermore, it is a relatively inefficient fuel. Its principal customers are big, heavy boilers such as those of ships and steam locomotives.

Some of these markets have been shrinking steadily for years. At the same time, the petroleum industry's output of more popular products has increased—and with them, necessarily, the output of residual.

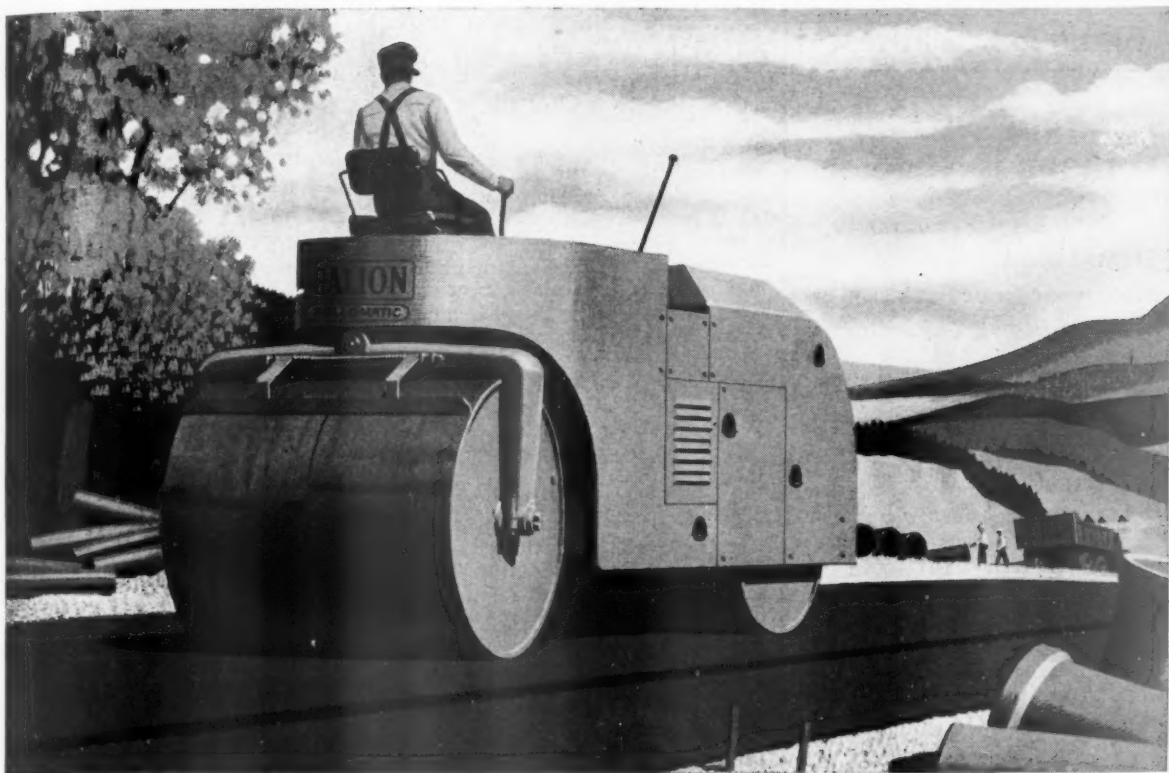
• **Cures**—The industry's general prescription for this ill has been improved technology. To cut residual output and increase the field of better products, refiners have already used such methods as distillation in a high vacuum, removal of crude's asphalt content, and conversion from residual to coke.

Esso feels its fluid coking process is the best yet. The process turns residual oil into (1) finished coke and (2) petroleum liquids that can be refined further into gasoline and heating oils.

Fluid coking, which has been under development for five years, is now but a few months away from its commercial debut. Carter Oil Co., affiliate of Standard Oil Co. (N. J.), has already built a 3,000-bbl.-a-day unit for its refinery at Billings, Mont. Carter's staff is making last-minute tests before officially turning the unit on.

Esso Standard Oil Co., another Jersey Standard affiliate, is also working on fluid coking. It has two units going up: a 10,000-bbl. one in Baltimore and a 20,000-bbl. one at Baton Rouge. The three plants will cost some \$7-million to \$10-million.

Chances are that other producers, big and small, will take a crack at the process later on. Jersey Standard has released the process for licensing to other companies. So far, however, no one has signed up. But the whole in-



NEW GALION ROLL-O-MATIC WITH TORQMATIC CONVERTER

rolls 10% more surface per day

GALION—one of the world's largest manufacturers of road rollers—now offers four new gasoline-powered ROLL-O-MATIC tandem rollers equipped with Allison TORQMATIC Converters.

This efficient combination torque converter and fluid coupling makes ROLL-O-MATIC simpler to operate. It eliminates the master clutch. There are no gears to shift.

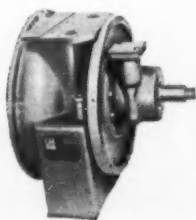
ROLL-O-MATIC rolls smoother in either direction. With the governor directly on the tailshaft it has quicker pickup—takes guesswork out of reversing. Rolling speed is automatically maintained up hill—on the level—down hill and on curves, by means of the combination of the TORQMATIC Converter and tailshaft governor.

The maker reports the operation is so smooth that at least 10% more surface can be rolled per day. And fuel consumption is reduced as much as 25%.

The applications of Allison TORQMATIC Converters are broadening rapidly. With units in a new range from 40 to 150 horsepower to fit both gasoline- or Diesel-powered engines, more than likely you, too, can gain the many moneysaving benefits of this drive. The completely *self-contained* converters are compact, easy to install and surprisingly low in price.

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"... fluid coking has a huge appetite for residual oil ..."

OIL starts on p. 66

dustry—especially producers in glutted areas—has shown interest. Probably, outside firms are waiting for the process to go commercial before giving it a try.

• **Mounting Trouble**—The problem of getting rid of residual oil grew really worrisome when the railroad industry began to shift from steam to diesel power. Many railroads, especially in the South and West, had burned heavy residual in their steam locomotives. When diesels came on the scene, residual oil started to pile up—particularly in areas that did not have easy access to marine markets.

Hence, some areas of the country have been glutted with residual oil. The problem has been intensified by the fact that residual oil output has increased—a result of growing demand for other petroleum products. Demand for residual has not increased proportionately. Residual sales have been growing at a rate of 2.5% a year, while gasoline and home heating oil sales have increased 8%.

Improved processing has helped keep that ratio from getting too far out of line. But despite all its technical improvements, the oil industry hasn't been able to push its yield of residual much below an average of 18%.

• **Appetite**—Fluid coking has a huge appetite for residual oil. (The name comes from a characteristic of the coke; the tiny coke granules, or "seeds," flow much like a liquid.) The drawing on page 66 illustrates how the process works.

How well does the process pay? Suppose a refinery has 10,000 bbl. of residual oil left over after turning out a batch of more popular products. The yields from fluid coking depend on the characteristics of the residual fed into it, but here's a representative example of what the refinery can get from its 10,000 bbl.:

• Some 490 tons of coke. A small amount of this is used to feed the reaction; the rest comes out as a ready-to-use fuel.

• Raw materials that can be converted into 2,500 bbl. of coker gasoline and 5,300 bbl. of gas oil.

• Gasoline and heating oil. These can be made by putting the coker gas and gas oil through a catalytic cracker.

The finished coke can be used by the refinery for its own processes or sold to other markets. In quality, the coke is top-notch. It has a low sulfur and ash content. This makes it useful for other things besides burning—for instance, as a raw material for carbon electrodes.



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Choice of Homes

Hunt for a new home for four engineering societies is narrowing down to Pittsburgh or New York.

Ever since April, 1907, four top U.S. engineering societies have lived huddled together in a building in midtown Manhattan, New York City. The quarters are too small now, and the engineers want to move. The question is—where?

The four societies are the American Institute of Mining Engineers, the American Society of Civil Engineers, the American Institute of Electrical Engineers, and the American Society of Mechanical Engineers. Their presence is earnestly desired by groups of business, civic, and educational leaders in several major cities—including New York. These groups have made all sorts of land and money offers to entice the engineers their way.

Last week, a special committee of past presidents of the engineering societies, which had set itself to study proposals from New York, Chicago, Pittsburgh, Philadelphia, and Washington, made a recommendation that the engineers accept the Pittsburgh offer—a slice of land in Pittsburgh's Golden Triangle and \$1½-million toward building costs. At the same time, the Pittsburgh Press reported that the engineers' decision was likely to favor Pittsburgh.

• **Fight**—Most of the other bidding cities seem to be out of the running. However, the New York bidders are not likely to give up without a stiff fight. They have made no promises so far, except to offer a site on Columbus Avenue and 60th Street, but the feeling is that they are ready to match anything offered by the Pittsburgh group.

There are indications, too, that the engineers aren't entirely sure they would want to move out of New York. Last November, the United Engineering Trustees, Inc., the societies' corporate voice, recommended staying in the city. Furthermore, there are reports that one society's membership has authorized a move only if it's within the New York metropolitan area. If the other three societies should move anyway, the four-society organization would have to split, thus losing its present corporate structure.

There is no way of knowing just yet how soon the engineers will make their decision. The question has to be pondered by the societies' directors and, in some cases, by the full membership of the societies.

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Webb conveyor systems are constantly being designed and installed to automatically handle materials that for years have presented handling problems. Bulky, heavy and even hot materials are handled easier and more quickly through every stage of manufacture—from raw material to finished product.

On your tough materials handling problems, Webb engineers can save considerable labor, time and production costs. It's being done every day in other plants—why not yours? Webb offers complete engineering service from consultation and design to installation and operation.

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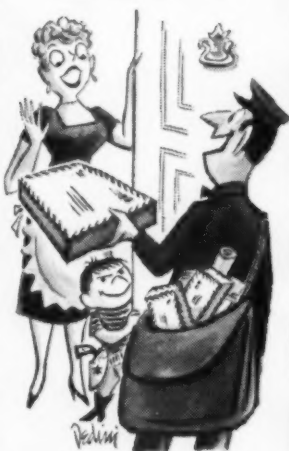
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TWO ON A TRUCK: Two Clark Mobilvans fit on a conventional 35-ft. highway trailer.



THREE ON FLATCAR: Automatic locking devices hold three units on a freight car.

Package Deal for Piggy-Back

Last week, Clark Equipment Co., Battle Creek, Mich., one of the leaders in materials handling, stepped into the piggy-back field with an equipment package for truck operators and railroads.

As a market for equipment makers, piggy-backing has lately become lush. Three railroads kicked the idea off last year. Already, the number has grown to 30.

Mobilvan—that's the name of Clark's shipping container—can be used on a highway trailer, or a railroad flatcar. The unit is a lightweight job of 3,000 lb., can carry 20,000 lb. Mobilvan comes equipped with automatic lock-

ing devices that make it fast to the bed of the trailer or flatcar.

Clark figures the cost of adapting rolling stock for Mobilvan at around \$500 per unit. And the tab for each Mobilvan unit is \$1,500.

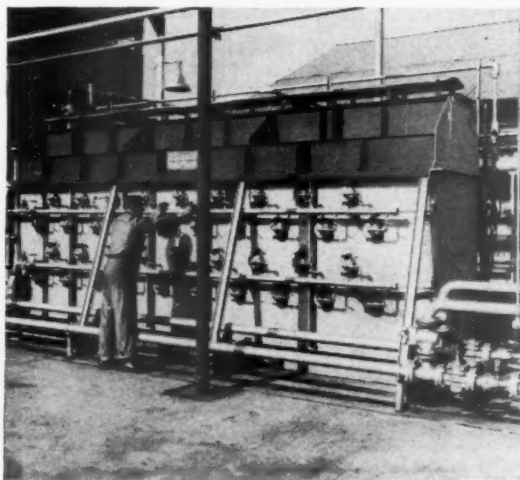
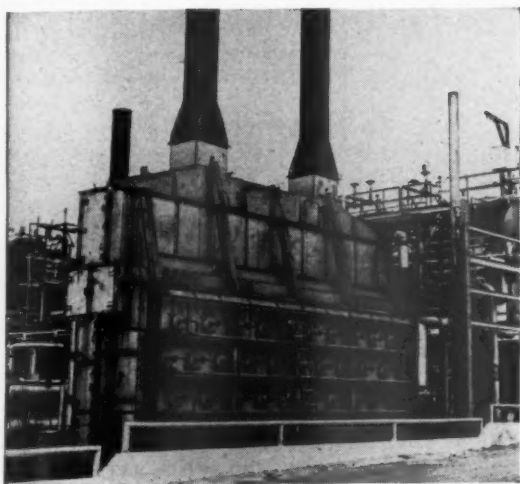
The alterations on rolling stock won't limit their use to Mobilvan. You can stack shipments on the converted stock by ordinary methods without interference.

Clark completes the Mobilvan package with two handling vehicles: A huge straddle-type carrier loads Mobilvans on trailers. And a heavy-duty fork lift truck (lower picture) works with either trailers or flat cars.

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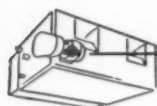
FLUID PROCESSING



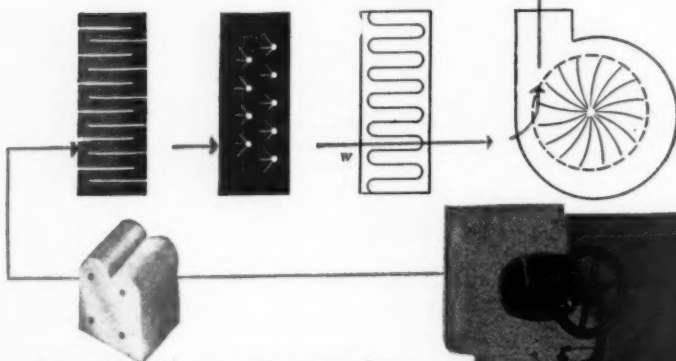
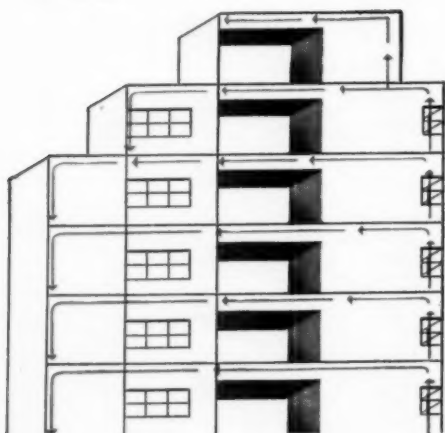
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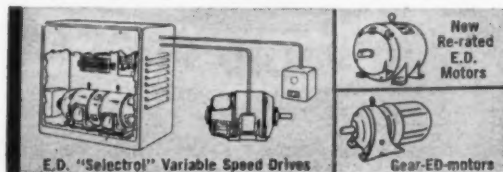


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PRODUCTION BRIEFS

Giant presses keep coming: Lukens Steel Co., Nordberg Mfg. Co., and McDonnell Aircraft Corp. have the latest. The McDonnell monster will be used for deep drawing of metal parts. It packs a 10,000 ton punch, is said to be the largest of its kind. The Lukens unit, also a reported first in its field, will straighten kinks out of 2 ft. thick steel plate, using 5,000 tons of pressure. Extrusion of metal parts for aircraft is the job of the Nordberg press, one of three designed by Loewy-Hydropress for the Air Force.

Sea water to fresh: The first U. S. industrial use of evaporation to produce fresh water from sea water will be at the new Morro Bay (Calif.) steam electric plant. Water pumped in from Morro Bay will be freshened, then used to cool the plant's electrical equipment.

Transistors continue to gain. The tiny devices (BW-Feb. 5'55p86) got a real boost when Ford announced that the units will be used in all radios made for Ford by the Bendix Corp. Bendix now makes half of all the six-tube radio receivers used by Ford, and reports that it is turning out a set every 23 sec.

Super Sabre will fly again, according to North American Aviation, Inc. The F-100 supersonic jet fighter, grounded since early November because of instability in flight, is being equipped with a new tail assembly and a modified control system. North American had trouble with the F-100 because features designed to help the plane break through the sound barrier resulted in unpredictable flight characteristics at low speeds.

The first shale oil plant in Western Colorado will soon be built by Union Oil Co. of Calif., long-time pioneer in the field. Union will first construct a pilot plant with a daily capacity of 1,000 tons of shale.

New plants: A \$9-million hydrocarbon-recovery plant will be built at Maytown, Ky., for the Kentucky West Virginia Gas Co. It will produce some 10-million cu. ft. a day of ethane, propane, butane, and natural gasoline. Output, still two years away, will go to Carbide & Carbon Chemicals Co.'s West Virginia chemical plants. . . . Du Pont is doubling the capacity of its electrochemicals plant at Niagara Falls. Chief product is Elvanol, a synthetic resin used in paper, textiles, film, chemicals, and adhesives.



Chemicals for Alaska's new gold

On the Alaskan panhandle, grizzled sourdoughs once scanned their pans for the bright glint of gold.

Now engineers of modern industry scout the land in helicopters to stake claims for industry.

Already working is the new \$52 million plant of the Ketchikan Pulp Co., formed by American Viscose and Puget Sound Pulp and Timber. It will draw on 78 billion board feet of commercial timber in the Tongass National Forest.

Pulp of high quality requires large

quantities of chlorine and caustic soda. So today, from Tacoma through the beautiful Inner Passage, goes a special barge, its hold heavy with liquid caustic soda, its deck crowded with tank cars of Hooker chlorine and other raw materials—bound for Ketchikan.

From plants in Niagara Falls, Tacoma, and Montague, Michigan, Hooker supplies much of the chlorine and related chemicals used by American industry.

The Tacoma plant, which supplies

Ketchikan, opened 25 years ago, and has played a pioneer's part in the Northwest's industrial development. Across the border in Vancouver, Hooker is preparing other facilities to serve this growing area.

Hooker chemicals—from the salt of the earth—are helping to extend new industrial frontiers into the wilderness, helping in the creation of new products and new industries here at home . . . as they have through half a century of chemical pioneering.

1905—Half a Century of Chemicals

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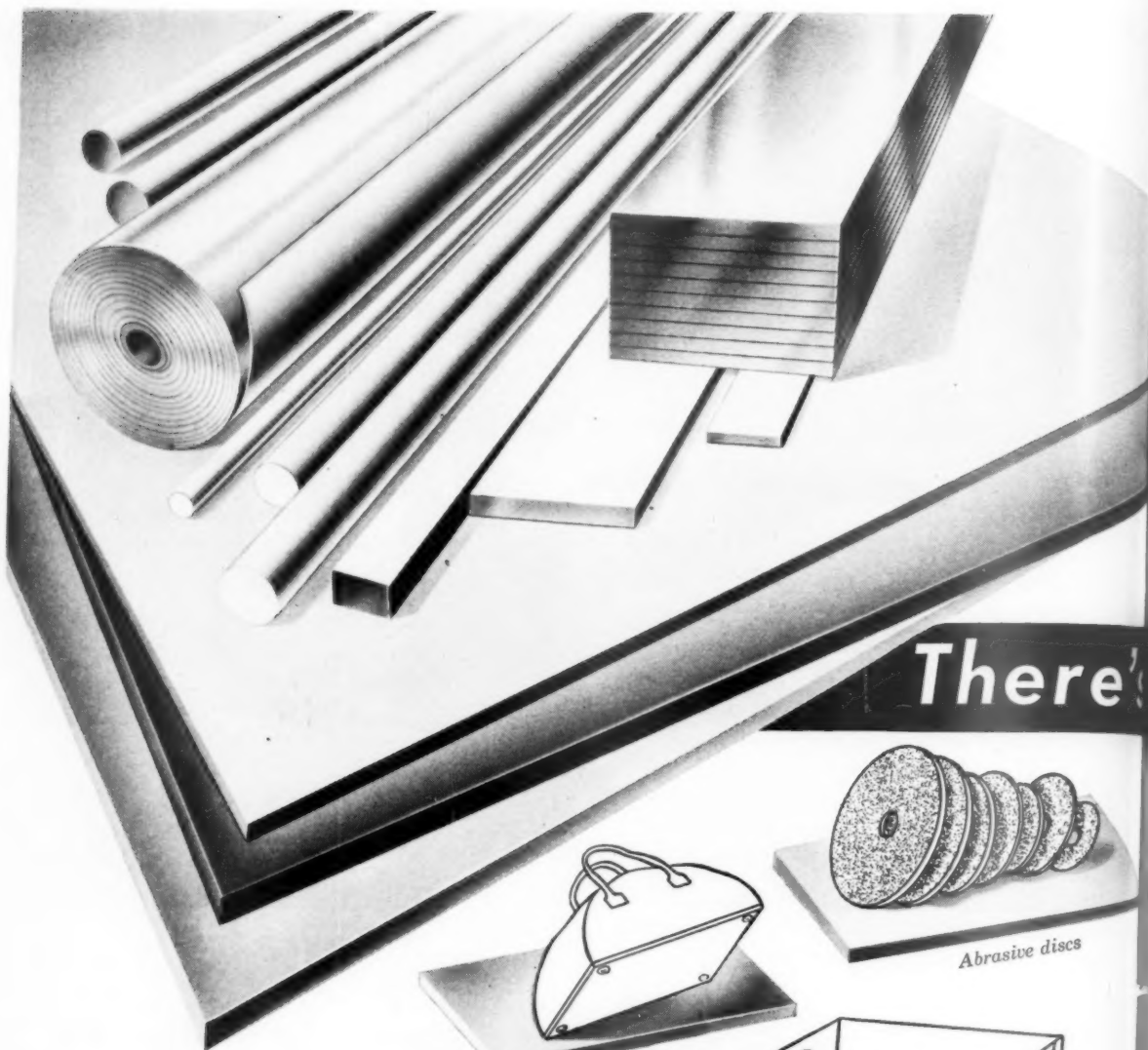
HOOKER ELECTROCHEMICAL COMPANY

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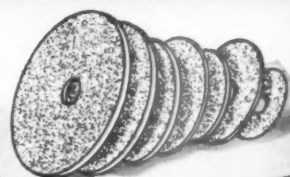
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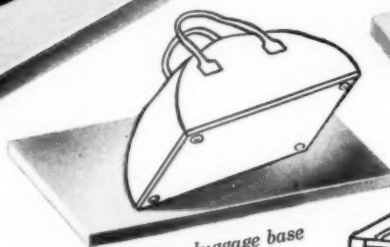
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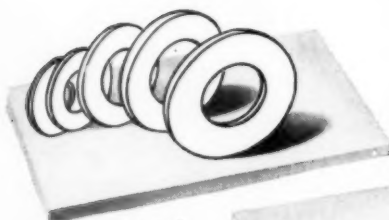
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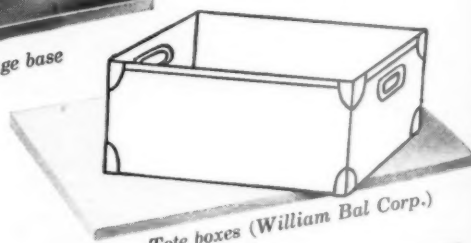
Abrasive discs



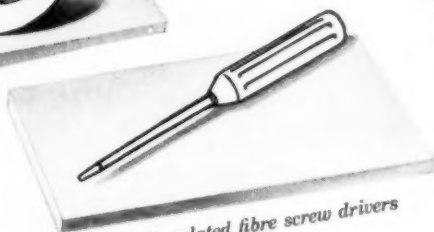
Airplane luggage base



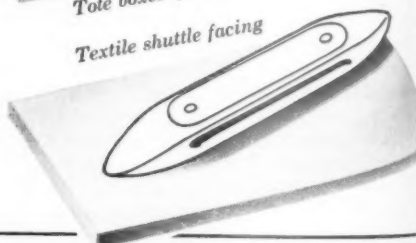
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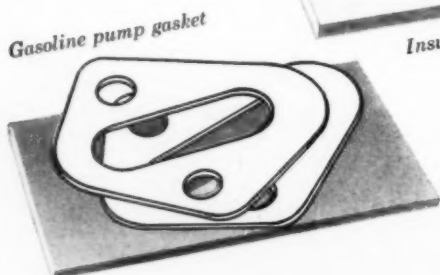
Tote boxes (William Bal Corp.)



Insulated fibre screw drivers



Textile shuttle facing

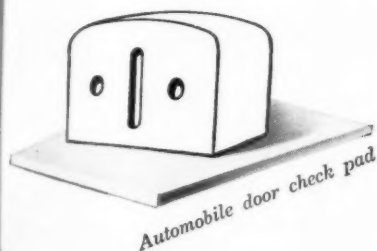


Gasoline pump gasket

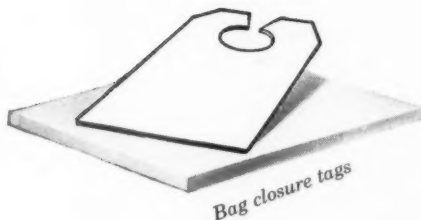
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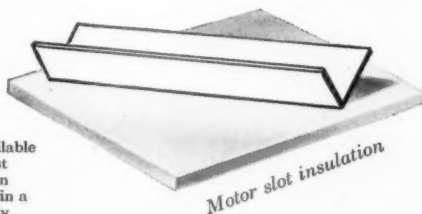
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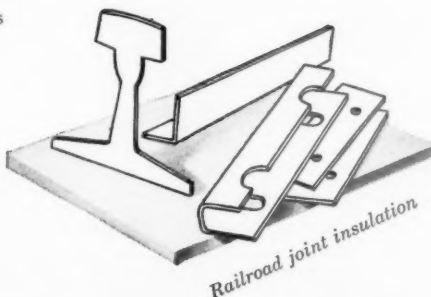
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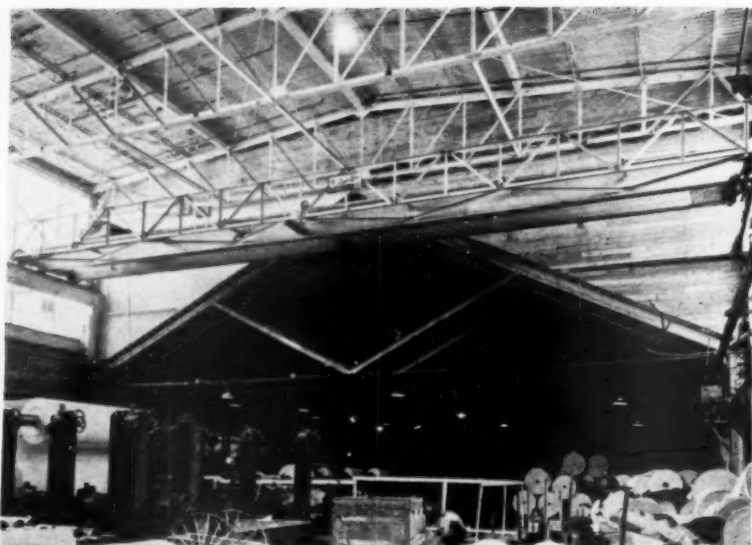
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Series "D" All-Electric 'Load Lifter' Cranes are built in capacities from 1 to 20 tons. Three basic types and three trolley styles are available. Pendant-type push-button control is standard on floor-operated cranes. Cage-controlled types are equipped with master switches. Selection is easy. Write for Catalog 221 and make your choice.

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NEW PRODUCTS

Skidless Stops

That's the hope for new disk-type brake. The inventor says it won't let the wheels lock.

Slamming on the brakes means, to the average motorist, a screaming skid, with passengers bouncing around inside the car like peas in a steel pod.

Pretty generally, his gloomy expectations will be fulfilled under present conditions. But there is some hope now that things will change. A new disk-type auto brake, now being tested, is said to bring a car going 60 mph. to a dead stop in 120 ft.—with no more fracas than a car stopping suddenly in soft sand. With the conventional drum-type brakes, it takes upwards of 200 ft. to stop a car going 60 mph.

• **Wheel Locks**—The main trouble with the drum-type brake is that the brake shoe can apply pressure so great that it stops the wheel suddenly and completely. This doesn't stop the car, but it does throw it into a skid.

The disk brake, on the other hand, doesn't lock the wheel but slows it gradually as the car slows down, according to Meadville Research Corp., which has applied for patents on the device. The company says that this slowing down of the wheels lessens the chances of a skid, and eliminates the sudden changes of speed that cause so many accidents.

Car brakes today generally have two parts. A hollow drum rotates with the wheel, and a mechanism inside the drum expands when the brake is applied. The expansion mechanism pushes out against the drum and, if the pressure is too great, locks the wheel.

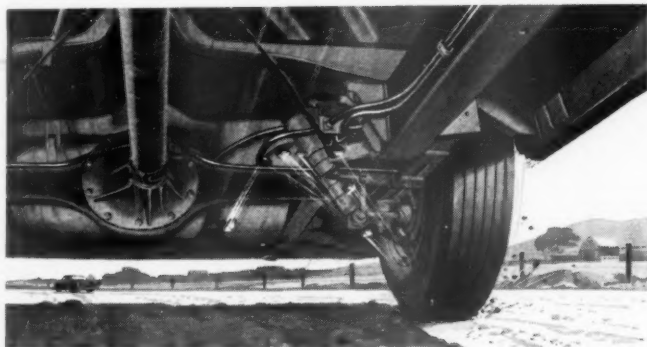
The disk brake also is basically a two-section job, but in it the pressure is applied from outside. The disk is the element that rotates with the wheel. Above the disk are several pistons, each tipped with a special composition material. When the brake is applied the pistons push down and inward against the disk face.

• **On Aircraft**—A similar disk-type brake has been used on aircraft since 1933, but with the addition of an electronic unit that imparts a fluttering action to the brake, and thus prevents its locking. The disk and piston setup for autos will duplicate the fluttering action without need for extra equipment, according to John Dotto, the Italian-born physicist who invented it.

Sponsors of the disk brake admit that it would take some re-engineering of



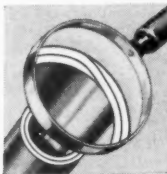
Will your brakes work, or will his name be mud?



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Your hydraulic brake lines take a constant beating from flying stones; sudden, jolting stops; bumpy roads; stop-and-go driving in traffic. You can depend on double-walled Bundyweld STEEL Tubing — it's 15 times stronger than necessary to save your life.

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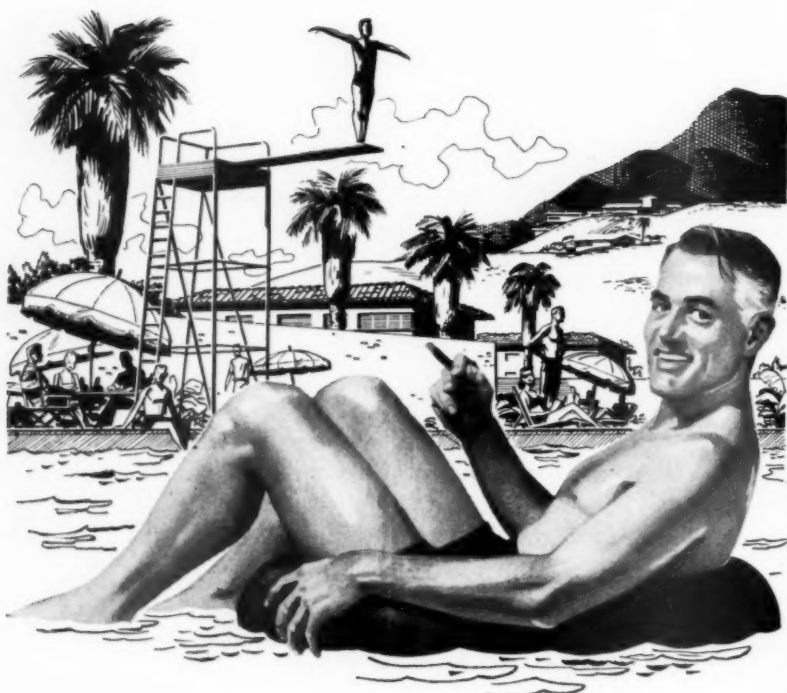
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tensions overboard along our sunny Pacific seacoast. You'll refresh yourself exploring a strangely different subtropic land—palm-lined boulevards, gardens bursting with winter flowers, lush orange groves drowsing beneath purple mountains. You'll enjoy the winter racing season (now on); have fun seeing the sights in Hollywood. And you'll take back with you a new supply of health and energy. Why not come now?

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autos to install it. But they say that their units should cost no more than the present conventional power brakes, and would have a much longer working life.

NEW PRODUCTS BRIEFS

Lawn mower or floor polisher—you can change a ¼" electric drill into either of these with Powerwand, a long, broom-like handle with two small wheels at the lower end for pushing it around. Apt Products, Inc., 665 Lexington Ave., Brooklyn 21, N. Y., makes it, with two disk attachments for the drill—a steel grass-cutting blade, and a wood and bristle floor polisher. The wand costs \$4.98, attachments \$1.98 each.

A dial-tuning radio compass—that's what Raytheon's automatic radio direction finder amounts to. When the operator tunes in any station in the marine or beacon bands, a needle on the instrument points directly to the station. By dialing two stations whose position he knows, a small boat navigator can get an accurate "fix" on his own position.

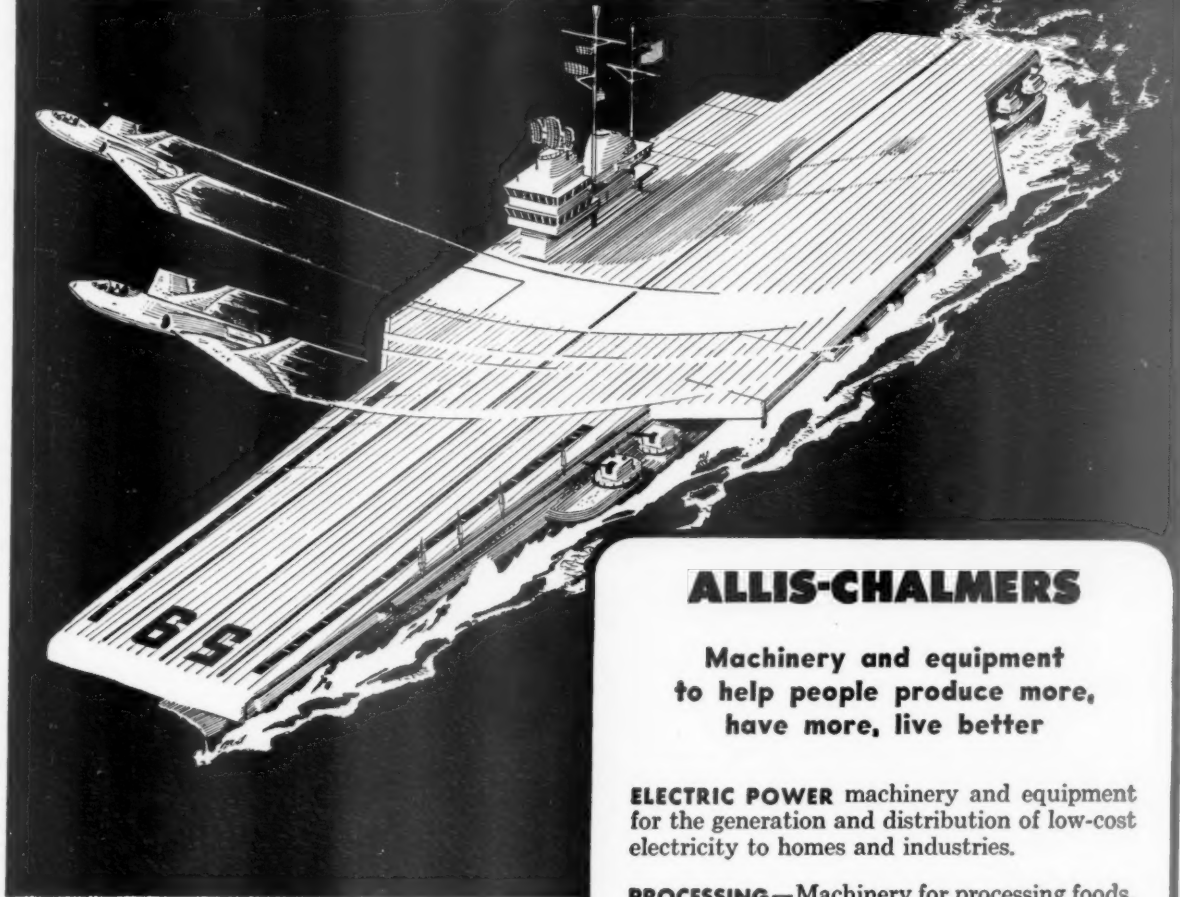
Antifreeze can be revitalized. Perma-Save, a booster developed by American Resinous Chemicals Corp., of Peabody, Mass., is said to restore anticorrosive agents in permanent antifreeze to full strength. Twelve oz. ordinarily enough to do the job, cost 98¢. Distributed by Randall Products Mfg. Co., 2095 Broadway, New York 23.

Don't drop that stopwatch. A stopwatch holder from Andrew Technical Supply Co., 6972 North Clark St., Chicago 26, supports the watch when it isn't being used, and won't interfere while the watch is being handled.

Amateur surveyors can check their own property lines with a simplified engineer's transit made by Mikron Instruments, 1966 E. Walnut St., Pasadena, Calif. Mikron claims the unit is professionally exact, but simple enough so that inexperienced homeowners can do a good job. Cost, \$205.

Siding without nails: Tempered Presdwood siding, made by Masonite, can be put on a house without nailing through the material. A newly-designed aluminum strip, previously nailed to the sheathing, fits over the top edge of one piece of siding, holds the specially-slotted bottom of the next siding section. For corners, Masonite will market another type of strip requiring nailing at only one point. From Masonite Corp., 111 W. Washington St., Chicago 2.

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MANAGEMENT

Ward Ruling Scares Other Boards



Louis E. Wolfson (left), fighting Sewell Avery for control of Montgomery Ward, last week won a court decision outlawing that company's staggered election of directors. The results can . . .

1. Immediately affect vote for boards in such Illinois companies as these

COMPANY	NO. OF DIRECTORS	TERM OF DIRECTORS
Armour & Co.	15	3
Chicago Great Western Ry.	15	5
Deere & Co.	15	3
Diamond T. Motor Car Co.	9	3
W. F. Hall Printing Co.	9	3
Illinois Terminal RR Co.	9	3
Sunbeam Corp.	9	3
Swift & Co.	15	3
U.S. Gypsum Co.	15	3

2. Set legal precedent for similar action against important companies — Budd Co., Westinghouse, G. C. Murphy, Hazel-Atlas, Western Auto Supply and many others — in these states:

Pennsylvania
Nebraska
Missouri
West Virginia

South Dakota
North Dakota
Montana
Mississippi

Kentucky
South Carolina
Arizona
Idaho

©BUSINESS WEEK

Louis E. Wolfson got his little toe into Sewell Avery's boardroom last week when a Chicago judge upheld his suit to force election of all Montgomery Ward directors this year (BW—Feb. 5 '55,p32). But he did more than that at the same time.

As the table on this page shows, the pro-Wolfson decision had effects outside the Ward theater:

- It cast immediate doubt on the voting procedures for directors of a number of large Illinois corporations.

- In other states it suggested similar doubts. Among them are Missouri, Kentucky, Pennsylvania, South Carolina, Nebraska, and West Virginia.

- It put a cloud on the system of staggering election of directors and, by indirection, lent judicial support to the controversial system of cumulative voting.

In still broader terms, the decision opened up to judicial attention the whole process of board elections, the rights of minority stockholders against incumbent management, and corporate laws that support continuity of present officials.

I. Background

Specifically, Circuit Judge Harry Fisher of Chicago held that Ward's bylaws for electing directors are unconstitutional because they provide for staggered terms for board members. Each year, three Ward directors out of a total of nine are elected for three-year terms. In his defense, Avery cited 142 companies listed on the New York Stock Exchange that do likewise.

- **Incubator State**—Wolfson couldn't have picked a more logical place than Illinois to contest Ward's system.

In 1870, when Illinois adopted a constitution, one section provided that stockholders of any corporation chartered in that state had the right to use the cumulative voting method for electing directors. It became part of Illinois law at a time when the public was disgusted with the manipulations of railroad barons.

Cumulative voting gives the stockholder a double-barreled weapon. First, he multiplies the number of shares he owns by the number of directors to be elected. That gives him the total votes he can cast. Second, he can either concentrate those votes on one candidate or spread them around. The effect is

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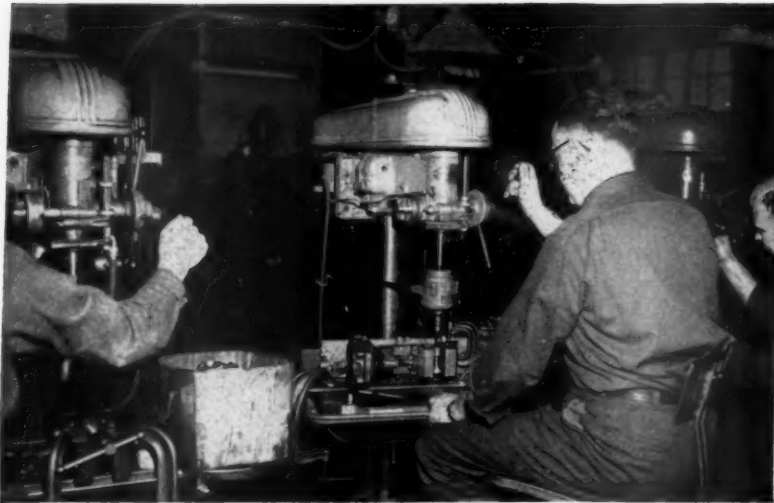


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cost-wise, too," reports Titan Tool.

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to make his minority holdings much more powerful. With 101 shares, for instance, he can be certain of electing one director in a case where there are a total of 900 shares balloting on eight directors.

Under normal or straight balloting, each share is entitled to only one vote for each director. The 101-share man could not be sure of representation on the board.

The concept behind cumulative voting is to give stockholders a measure of protection against entrenched management. According to Charles Williams, assistant professor of Finance at Harvard Business School and author of *Cumulative Voting for Directors* (Harvard, 1951), the system is a peculiar innovation of American corporate law.

But two years after Illinois O.K.'d cumulative voting, the state passed a Business Corporation Act specifically authorizing staggered terms for directors. Since then, the law has been on the books unchallenged and virtually unnoticed. Now Judge Fisher says the two are diametrically opposed.

• **Counterweight**—A management using the system of staggering directors has a built-in barrier against an upset in any one year by dissident groups. Even if a stockholder could corral every voting share, he couldn't gain a majority on a board. In addition, such a system forces a minority to have a lot more votes in its pockets even to elect one director—since management with a majority of proxies also can concentrate its votes on fewer directors.

Take the Montgomery Ward case. Avery and two directors are up for election Apr. 22—though the date may have to be postponed pending a ruling on Ward's appeal to the Illinois Supreme Court.

Under the system that Judge Fisher outlawed, Avery could be sure (1) of a 6-to-3 majority no matter what Wolfson did this year, and (2) could virtually guarantee his own election by concentrating all his votes on himself.

Now, however, because of the decision, both he and Wolfson may have to change tactics. If Wolfson has enough votes he can go for a majority. If not, he can go for, say, four of nine and hope for better luck next year. Avery has to see what votes he can count on, then decide whether he has to sacrifice four directors and concentrate on obtaining a majority—with himself included.

• **Legal Point**—In his book Williams makes a strong case that staggering the election of directors has repeatedly been used by companies in attempts to stave off the effects of cumulative voting. This, he says, "... raises a real question whether it can be properly said that cumulative voting is really mandatory (as in Illinois) in anything more than



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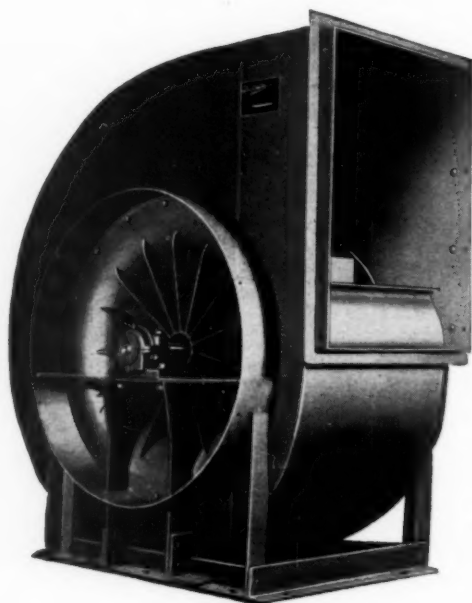
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a nominal sense in any jurisdiction other than California and Wyoming, where an annual election of all directors is required."

Judge Fisher agreed with this argument, which formed the basis of Wolfson's suit against Ward. Since a constitutional provision supersedes a legislative act, he held that the long-standing staggered voting system had been illegal right from the start.

II. Broad Implications

After Illinois adopted the cumulative voting provision, several other states followed suit. Today, 13 have the provision written into their constitutions.

Also, just as in Illinois, almost all of them allow staggered terms for directors. It is companies in these states that will be keeping a close eye on the outcome of the Illinois suit. Up to now, there has never been a clear-cut test anywhere on the issue. A decision in one state could have the effect of a pebble in a pond, rippling through the courts in other states.

Then there are the seven states (and Hawaii) where cumulative voting has become mandatory by statute. Included are Michigan and Ohio, two major states for chartering business. What effect would the Illinois case have on them?

Finally, Judge Fisher's decision can carry over into the affairs of companies incorporated in states where cumulative voting is permitted but not required—including the three key states where most major corporations are chartered, Delaware, New Jersey, and New York. While no legal question would be involved here, Illinois Supreme Court sanction would back up critics who claim that minority stockholders often get the short shrift.

In handing down his decision, Judge Fisher questioned the value of management continuity generally: "It may well lead to the perpetuation of error and mismanagement. Moreover, at least in the case of large corporations, it may mean the perpetuation of control by a very small, unrepresentative minority."

• **Defense—Management**, on the other hand, argues that cumulative voting opens the door to troublemakers. Corporate business, most executives insist, can't be carried on in an atmosphere of wrangling among dissident board members. Recent events on the New Haven RR, where Frederic Dumaine, Jr., was able to place 10 directors on a board of 21 through cumulative voting, support that argument.

Even so, some students of corporate affairs, such as Williams of Harvard, insist that there are some valid arguments in cumulative voting's favor. Judge Fisher may have added the legal backing.



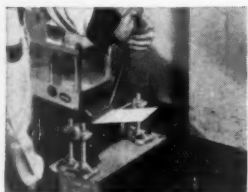
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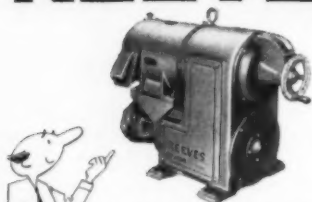
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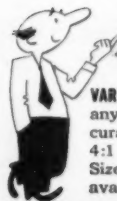
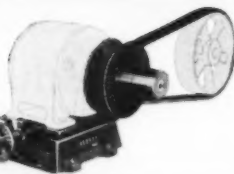
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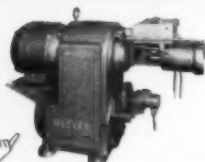
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THE MANAGEMENT PATTERN

How Big: New Answer, and New Attack

Two long argued questions are cropping up more and more as the economy speeds along at what seems to be an ever-accelerating clip.

The questions: (1) How big can a company get; and (2) how big should a company get?

In practice, you can't really separate the two. But it is possible to pull them apart for inspection.

Take the first. Traditionally, economists have assumed that there is an economic limit to the size of an operation. After that, the laws of diminishing returns come into play, and increments become less and less profitable.

BUT at this winter's American Economic Assn. meeting in Detroit (BW—Jan. 8 '54, p104), Edith Penrose of Johns Hopkins University offered a newer theory of corporate growth. In effect, she said that it wasn't the cost of capital, or limits on production efficiency or markets, or indeed any economic block that controlled the growth or ultimate size of a corporation. The older thesis had concerned itself with single products—not with the modern idea of a corporation widely diversified in many lines.

In other words, she said that there isn't any economic limit to how big a company can get.

What does control the size? Her answer: management itself and how it is organized. Lack of organization alone is a major limitation to the growth of firms.

But by its ingenuity, she points out, American management has found a way to break through this block. The way is called decentralization—and it is blood brother to diversification (BW—Jun. 19 '54, p127). By splitting a corporation into its logical parts—either by product lines, by geography, or by markets—modern management overcomes the complexities in bigness.

ONCE started, corporate expansion feeds on itself. Every time a company decides to grow, it has to add management talent. At first, this puts a definite limit on how much of a plunge a company can take. But it also gives the company what Mrs. Penrose calls

"unused services": management knowhow that goes beyond the needs of the particular expansion. This provides a backlog for still more growth. Management gains experience; and when the particular expansion is completed, this experience is released to grab new growth opportunities.

What's more, Mrs. Penrose doesn't find any evidence that large companies are run by supermen. Only lack of normally experienced management can brake expansion—and business can readily overcome that. In fact, even if a company wanted to stop growing, pressure from younger men accumulated while it was growing would tend to prevent it. That's a problem that many think a company like General Motors will someday face (BW—Feb. 13 '54, p68).

Out of this line of thought, Mrs. Penrose arrived at a logical end to her discussion: "As a firm increases in size, the real issue is not whether it is unwieldy, but whether it is a single firm in an economic sense."

It's right here that the second question pops up. If there are no natural factors limiting a company's size, then it becomes more important than ever to decide whether or not you want to impose limits by unnatural factors.

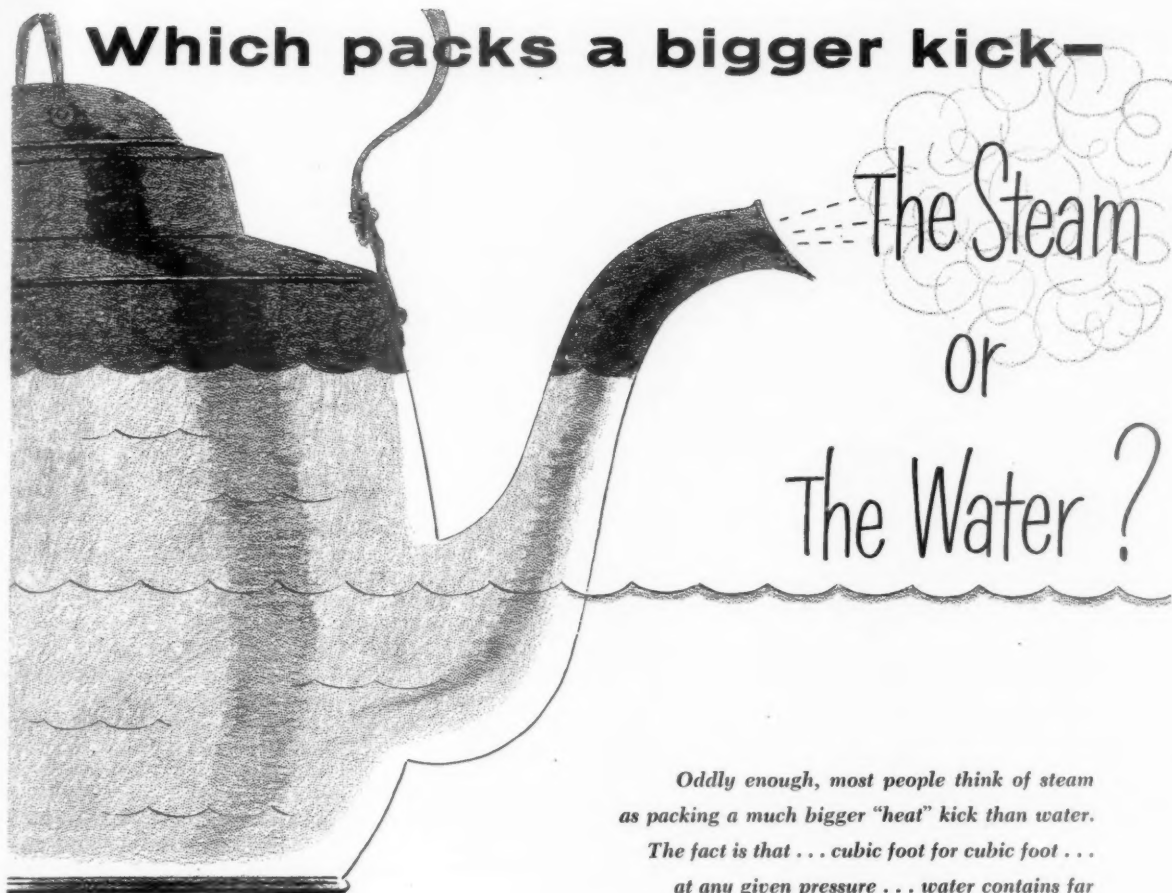
Sides are already taking shape. In the past couple of years a movement has begun that some might call Apologists for Bigness. Such men as J. K. Galbraith and David Lilienthal have presented cogent arguments that bigness is no threat to our competitive economy (BW—Feb. 21 '53, p75).

On the other hand, Rep. Wright Patman of Texas last week let loose what may be a new counter-attack against bigness. Since economists can now show that there's no economic or other natural limit to size, and since bigness is gaining support through disinterested analysis—what anti-bigness tack is left?

Rep. Patman hints at one: Perhaps, he says, there should be laws regulating the diversification of any one corporation. Limits, he implies, could be placed on the number of fields a company can enter.

You can hear the shouting already.

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New Tools...

... for managers catch on fast; West Coast confab hears how computers and math dish up data quickly.

Some businessmen may not like it but competition won't let any of them ignore the new crop of management methods and devices now in rapid evolution. Computers (BW—Jul. 24 '54, p58), high-powered mathematics (BW—Nov. 13 '54, p104), operations research (BW—May 30 '53, p96), and many other new tools are being honed for management's kit.

Here are a few signs of stepped-up interest:

- Sylvania Electric Products, Inc. has under construction a Data Processing Center to tie in electronically some 30 scattered plants to a central fact-gathering and analyzing room. Heart of the setup is a Remington Rand Univac electronic computer that can summarize companywide financial and production information.

- General Electric's Univac at its Louisville major appliance headquarters—one of the first big computers in private industry—is now hard at work cranking out payrolls and printing checks. What's more, it's already warming up for the day (said to be not far off) when it will make runs on market projections, semi-finished and finished inventory control, and raw material purchasing forecasts.

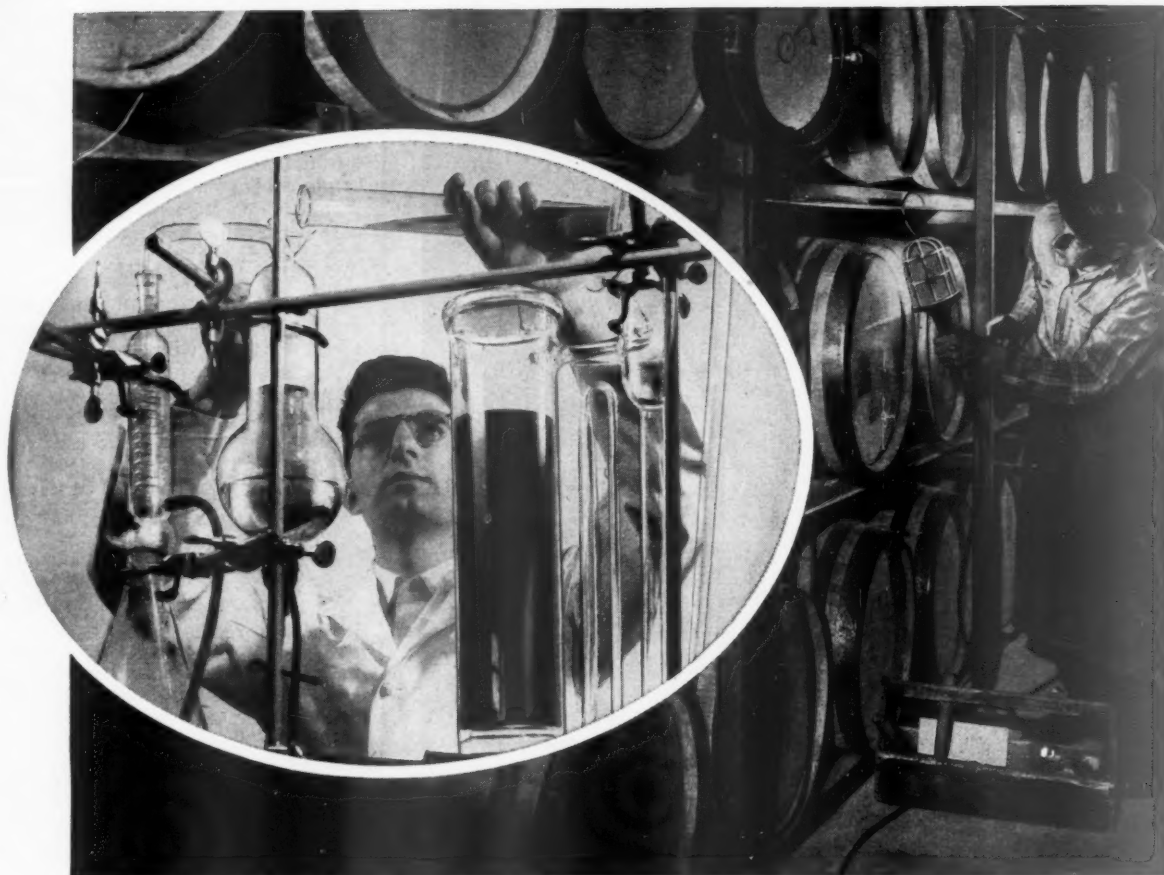
- The American Management Assn. has discovered enough interest in the new developments for several conferences. A West Coast meeting on new management methods has just been held in Los Angeles and New York will have a special session covering electronics in management beginning Feb. 28.

- **More Light**—The Los Angeles conference dispelled some of the mystery surrounding the new devices. Two top authorities triggered some discussions described as spirited.

Author and consultant Peter F. Drucker (BW—Dec. 18 '54, p70) covered the broad implications of the new management tools. Leonard Spacek, senior partner of the accounting firm of Arthur Andersen & Co., concentrated on computers (Andersen is in the vanguard of the computer advocates).

- **Enthusiast**—Spacek was emphatic. "Computers," he insisted, "are the outstanding development of technology and are positively vital to management. They are going to be like bulldozers in the construction industry."

It's wrong, Spacek argued, to think that only big companies can profitably use computer equipment. Big com-



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OLD GRAND-DAD, OLD TAYLOR, OLD CROW, KENTUCKY STRAIGHT BOURBON WHISKIES, BOTTLED IN BOND, 100 PROOF. • PM BLENDED WHISKEY, 65% GRAIN NEUTRAL SPIRITS, 86 PROOF. • OLD SUNNY BROOK KENTUCKY WHISKEY—A BLEND, 65% GRAIN NEUTRAL SPIRITS, 86 PROOF. GILBEY'S DISTILLED LONDON DRY GIN, 100% GRAIN NEUTRAL SPIRITS, 90 PROOF. • BELLOWS PARTNERS CHOICE WHISKEY—A BLEND, 60% GRAIN NEUTRAL SPIRITS, 86.8 PROOF. • HILL AND HILL, BOURBON DE LUXE, BOND & LILLARD, OLD HERMITAGE, KENTUCKY WHISKIES.



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panies could already afford the clerical army that the computers replace; the little fellow couldn't ever hire such a staff, but he can now rent a computer or computing service. And there's a lot of development effort on medium and small computers, and computers for special purposes. All this should help restore the traditional balance between big and small companies, Spacek predicted.

• **Steps**—To make the best use of the new science of statistical management in a company, Spacek said, you have to take these four steps:

- Select progressive, broadly experienced men from your company.

- Send them to school for three months or so to learn the basic computer application techniques.

- Have them study all present and future economic applications in the company.

- Let them recommend a course of action for management.

• **No Panacea**—That was the point where Drucker picked up the ball. The new management tools, he said, can help management find the right way, but they aren't any panacea for avoiding bad decisions.

This is how they will help, as Drucker sees it: They will explain what decisions management has to make. It's not the decisions themselves that get management off the track; it's the wrong assumptions on which judgments are based.

Three elements are always present in the thinking, the decisions, and the action of the manager of a business, according to Drucker's thesis: assumptions, objectives, and risks. Thus, in running a business, a managerial idea is always needed, a rational system, rather than just "feel" or intuition. And the major aim and main contribution of the new management tools is "to bring out and sharpen this rational system, this rational hypothesis, underlying the business enterprise and underlying managerial decisions and actions."

• **Guideposts**—How will the new methods throw light on the dark places?

First of all, Drucker said, they will help to find and define the objectives, assumptions, and risks. They will take full account of many of the changing influences that are almost impossible for a man to get his mind around when he has a choice of some magnitude to make.

Basically, the new tools will help a manager by:

- Showing him the whole business in fairly simple terms, and helping him set the right objectives for it.

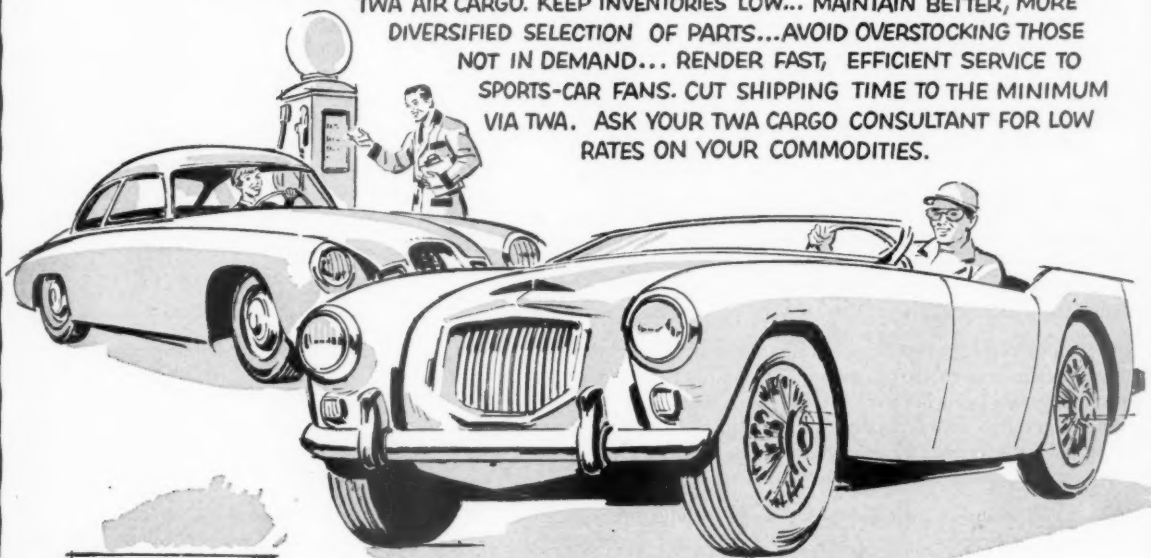
- Letting him make a decision in one area that is right for the business as a whole.

- Showing a manager all the al-

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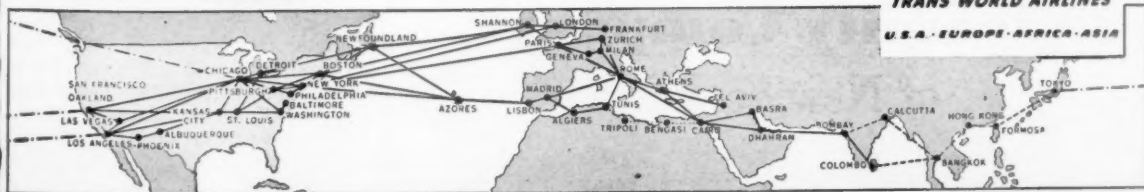
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The policyholder, a manufacturer doing a gross business in excess of 55 million dollars, was covered to a total of some 700 thousand dollars on a general coverage policy. A very old and valued customer, well rated and generally well regarded, desired a higher limit of credit than that provided by the policy on the basis of credit rating alone. Should the policyholder go along with the customer? Little if any risk seemed to threaten. Still . . .

The policyholder's Credit Manager decided to refer the matter to his American Credit representative. As a result, a rider was issued, increasing the coverage to 150 thousand, and raising the total policy amount to 750 thousand dollars. Somewhat later, against all indications, the account had to be filed as a past due item of more than 196 thousand dollars. Despite all appearances, the old and valued customer was actually in trouble, with the policyholder the largest of a whole group of creditors.

As a free service under the policy, American Credit represented the policyholder in a series of meetings with the debtor and his other creditors, and managed to collect \$70,600. This amount was prorated between the total claim and the actual coverage, and the policyholder also received a loss payment of \$86,400.00, with no service charge for the item collected. Thus, through the considered action of its Credit Executive, the policyholder's loss, by reason of this \$157,000 total recovery, was reduced to a nominal figure, and there was no disastrous reduction of his working capital.

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American Credit Indemnity Company of New York

ternatives and risks in any situation—some of which escape even the best of managers without such aid.

- Making clear to a manager what measurements are appropriate to a certain decision and to certain areas of the business.

- Showing who should know about the decisions and actions.

- Alerting a manager to what can or should happen in the future as a result of proposed actions—showing him all possible impacts on other parts of the business and the economy.

Finally, Drucker said, the use of statistical mathematics, operations research, electronic aids, and other new tools, indicates that truly effective measurements are now at hand. These are highly complex in themselves, but they can now be made and reduced to simple terms for quick understanding.

MANAGEMENT BRIEFS

New tags: Two more companies have changed their names to fit their businesses. Burlington Mills Corp. becomes Burlington Industries, Inc., to play up the company's diversification and decentralization. Standard Oil Development Co. is now Esso Research & Engineering Co., to characterize the Jersey Standard subsidiary's petroleum research operations.

Earl D. Johnson, former Under Secretary of the Army, takes over as senior vice-president of General Dynamics Corp. For the past year, Johnson has been president of Air Transport Assn. of America.

Baldwin-Lima-Hamilton Corp. took its second big diversification step this year by acquiring 100% ownership of Madsen Iron Works, Inc., of Los Angeles, which makes heavy road construction machinery. In January, B-L-H took on Hydropress, Inc., and Loewy Construction Co. Now, less than 20% of B-L-H's production is in transportation equipment.

Campus construction: General Electric has awarded a \$1.5-million construction contract for two new buildings in its management institute just above New York City on the Hudson. The first 13-week term will convene in about a year for GE's first batch of management-rank students.

The suggestion box at General Motors paid off last year, to the tune of nearly \$2.5-million. Of 192,000 ideas submitted, 41,000 hit the jackpot. All three figures are new records. Since the plan was adopted in 1942, GM has paid out \$14-million.



This is the keyboard of the Burroughs Miracle Multiplier.

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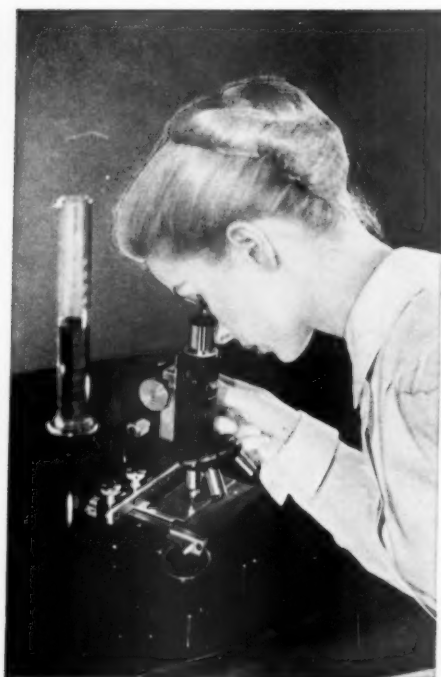


Today's markets are fluid, fast-changing. In this climate how does an able, aggressive company assure continued success?

Says Rayonier: "Gear all operations to product and production flexibility. Be able to move in any direction. Don't be complacent."

"Continually improve products; meet demand for the ever-new and improved. For example, in product after product the celluloses have proved superior, more versatile, less costly. With public acceptance won, Rayonier keeps seeking more uses; new, broader markets for chemical cellulose."

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To broaden even further its diversification base, Rayonier has for years been investigating a complex bundle of organic chemicals it recently defined as "the silvichemicals." These now promise new, superior products at lower costs, plus new, untapped markets.

Silvichemistry is yet another arm in Rayonier's long-range planning. What's more, by branching out into silvichemical production Rayonier is further utilizing its basic raw material for chemical cellulose—trees.

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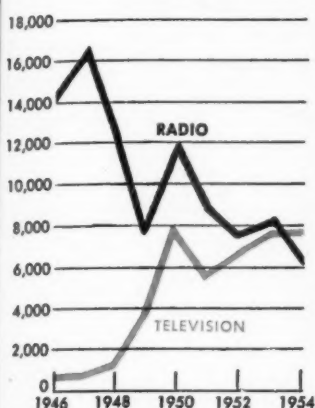
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CHARTS OF THE WEEK

Major Appliances Manufacturers' Sales

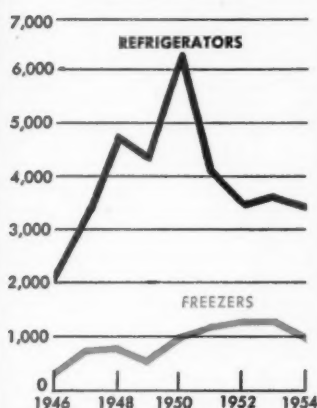
Radio & Television

Thousands of Units



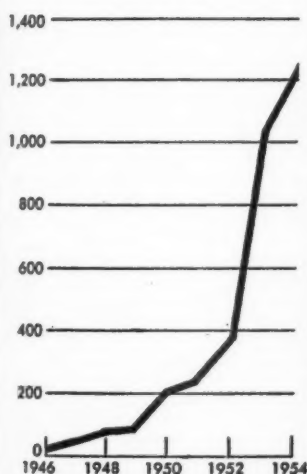
Refrigerators & Freezers

Thousands of Units



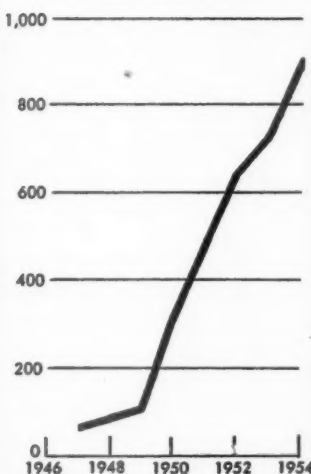
Room Air Conditioners

Thousands of Units



Clothes Driers

Thousands of Units



Source: Electrical Merchandising.

How the Big Ones Fared

Manufacturers' sales of appliances finished the year 1954 not very far behind 1953, in spite of a decline in the early part of the year. Individual appliances had trends of their own.

Manufacturers' television sales amounted to 7.3-million units in 1954, according to figures published by Elec-

trical Merchandising, a McGraw-Hill publication. This brought television sales some 900,000 units ahead of radio sales. In 1953, the picture was exactly the reverse.

Refrigerator sales leveled off. War shortages had become a thing of the past, and the market was nearly satu-



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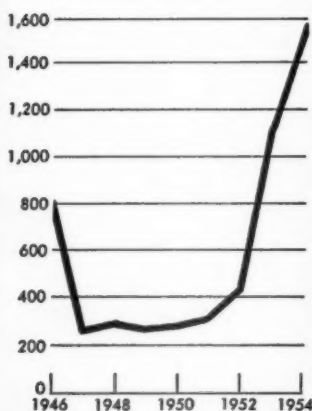
rated. The home freezer, a more marginal item, failed to show improvement in 1954. Room air conditioners and

clothes driers rode rising sales curves as they became more and more established as part of everyday living.

Small Appliances Manufacturers' Sales

Broilers

Thousands of Units



Waffle Irons & Sandwich Grills

Thousands of Units



Electric Bed Covering

Thousands of Units



Toasters

Thousands of Units



Data: Electrical Merchandising.

How the Small Ones Fared

Manufacturers' sales of electric housewares in 1954 amounted to 7.1% less than in 1953, on the basis of dollar value at retail. Nevertheless, Electrical Merchandising considers 1954 a very nearly normal year and possibly a yardstick for the future.

The electric broiler increased in popu-

larity again in 1954. For the first time, unit sales of broilers exceeded sales of waffle irons and sandwich grills, which have been on a long ride downhill. U.S. consumers' affection for electric blankets grew still warmer in 1954. Toaster sales leveled off and should continue along at the present rate.

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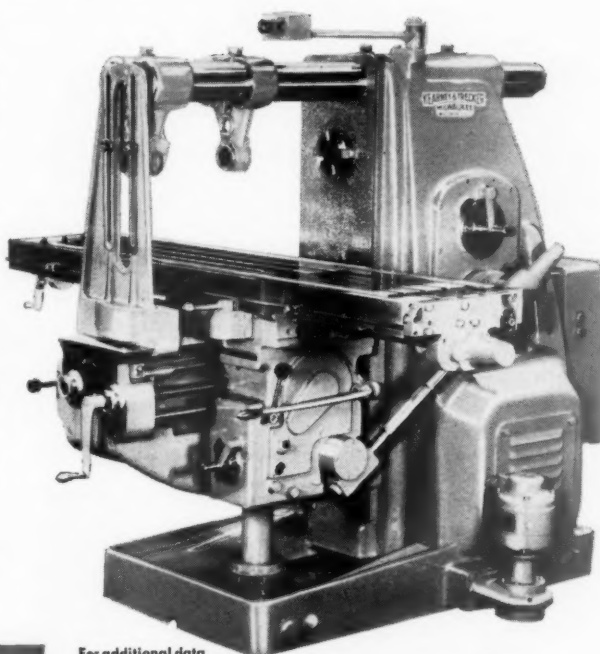
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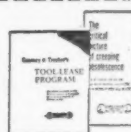
Machines over 20 years old, which should definitely be replaced. ☐ Machines 10-20 years old, which should probably be replaced. ☐ Machines less than 10 years old. ☐

3987 automatic and manufacturing type milling machines	14%	39%	47%
5143 vertical milling machines	10%	34%	56%
9573 knee type horizontal milling machines	25%	37%	38%
1009 bed type milling machines	14%	27%	59%
871 horizontal and vertical precision boring machines	2%	37%	61%

Figures adopted from 1953 American Machinist survey of Metalworking Industry.



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ATOMIC POWER FOR INDUSTRY

● At a Hudson River site (marked off in air view at right), Consolidated Edison of New York plans the first atomic generating plant bought entirely with private funds. Vice-Pres. James Fairman (below) is shopping for equipment.

● Five types of reactor are being built under AEC's five-year plan of aid. One of them may run the power plant of the future (page 108).

Meanwhile, AEC is in the spotlight (page 114).



Prospect of

At Indian Point (picture), 40 mi. up the Hudson River from New York, the nation's first truly commercial atomic power plant is destined to rise on the ashes of old picnic fires and the dust of abandoned baseball fields.

The rocky, wooded point was owned for many years by a steamboat company, to provide its New York City excursionists with playfields and picnic groves. Last fall, Consolidated Edison Co. of New York bought the 340 acres as a site for its proposed atom power plant (BW-Jan. 1 '55, p17). By yearend, Con Ed hopes to have plans drawn up for a 200,000-kw. plant to help supply New York City and Westchester County with electricity.

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ity that's studying atomic power—at least 18 companies and groups of companies are in the field. Nor is it the farthest advanced—Duquesne Light Co.'s 60,000-kw. plant at Shippingport, Pa. (BW—Jun. 5 '54, p100) holds that distinction. But Con Ed is the first to plan a power plant that's privately financed, that counts on no help from the government except the right to buy fissionable fuel.

• **Going Into Action**—Con Ed is going about its atomic power debut much as it would with a conventional generating plant.

It has foreseen the need for more electric power in its service area. It has considered nuclear fuel and has found it intriguing. The Indian Point site,

near Peekskill, N. Y., fits into Con Ed's distribution grid, and a generating station will definitely be built there—whether it runs on nuclear fission, oil, or gas. For a nuclear plant, too, the site has the advantages of ample water from the Hudson and of remoteness from big population centers. It may be the best spot the company will ever have for a nuclear plant.

Having bought the acreage and decided to explore atomic power as first choice, Con Ed called upon reactor manufacturers—starting with General Electric and Westinghouse—to submit plans for the best 200,000-kw. unit they could build.

The big utility hired Vitro Corp. of America, which has engineered several

Atomic Energy Commission plants, to work with its own engineers in reviewing proposals of the equipment makers (BW—Dec. 11 '54, p146). As in any other plant expansion, Con Ed is concerned with (1) price—a nuclear power station probably shouldn't cost much more than twice a conventional plant, and (2) the plant's adaptability to improvement as new components come on the market.

"Eventually," says James F. Fairman (picture), Con Ed's engineering vice-president, "this is the way everyone in the business will order a reactor."

• **Atomic Fuel**—If any other company has thought of starting an atomic plant as Con Ed has, it has been singularly silent about it. Several companies have

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offered to build reactors for AEC under complete or partial government financing; others have even trained operating crews for the day when they could build a plant. But Con Ed is counting only on clearance to buy fuel from the government.

"Someday," says Fairman, "we hope to buy fuel elements from a commercial source just as we buy a ton of coal. We'll hand back the fuel to the same supplier for reprocessing [removing the accumulated poisons that slow an atomic reaction after a while] after we are through with it—we don't want to get into fuel processing any more than we want to get into research and development on reactors."

• **Suppliers Scramble**—Even Con Ed probably didn't anticipate the stir its inquiries would make among suppliers of reactors and components.

"Of course we're interested," one supplier explains. "A big outfit like Con Ed doesn't kid around about things like this. And who wouldn't like to build that reactor for them?"

The race to supply equipment to the atomic power industry is just beginning (BW—Jun.12'54,p118), but already it's hard to keep up with all the companies that are getting into the act. The largest single group, of course, is made up of manufacturers of conventional electric generating equipment. They have long worked both with the utilities and AEC.

Also in the field, however, are other companies that regard atomic power as an avenue for diversification: builders of aircraft, ships, locomotives, and ma-

chine tools; petroleum producers and refiners; engineering firms.

For example, low bidder for a recent AEC contract to build a package-power reactor for the Army was American Locomotive Co.

• **Experience Wanted**—An AEC official feels that industry has consistently quoted modest prices on government reactor contracts. "This is partly because of the national security aspects of the AEC program," he says, "and partly because so many companies are eager to get experience in atomic work."

The lure of a chance to gain technical knowhow should be equally potent in Con Ed's case. Nuclear scientists and engineers have been itching to build a large atomic power plant—and Con Ed's would be more than three times the capacity of Duquesne Light's. They are convinced that construction of such plants—maybe only one or two of them—is the shortest path to nuclear power that is economically competitive.

Doubtless, Con Ed is counting on keen competition among equipment suppliers to whittle down costs enough to make its privately financed project workable. Suppliers have traditionally offered utilities their newest equipment on attractive terms, in order to gain industry acceptance of the equipment.

For Con Ed, time is not unlimited. Capacity of some type must be planned in the next year or two; if atomic power doesn't pan out, a conventional plant must be designed. But Fairman is confident of getting atomic plans squared away by yearend.

I. Where Government Fits In

1955 may be the year when commercial atomic power leaves the dream stage and goes into blueprints—if not into bricks and mortar—on a large scale. Besides the Con Ed and Duquesne projects, two or three others may be announced. And several related developments are pushing theory into practice:

• Suppliers will start taking orders for small reactors for universities, medical and other research groups, maybe some industrial customers. These reactors have no significance as sources of electric power, but they will add to the skills of manufacturers and users.

• AEC will push work on five experimental power reactors (page 108) in its so-called Five-Year Program. These projects will show eventually which reactor, which fuel is best.

• The armed forces will keep suppliers busy with orders, too. The Army's small portable power plant and the Navy's reactor for capital ships are especially important in commercial power exploration.

The Army's package-power reactor, to

be built by American Locomotive, is too small (about 2,000-kw. capacity) to be considered a power source for domestic utility systems. But it promises to be the first atomic power plant for which manufacturers can find an export market—it can serve usefully in power-hungry localities abroad.

The Navy's large-ship unit will produce power in quantities more comparable with a modern utility plant. It will have features unique to shipboard requirements but, disregarding those, industry will be able to draw out sorely needed data on costs and on the snags in building and operating big reactors.

• **Washington's Blessing**—Today, pressure for rapid development of atomic power originates as much in Washington as in any industry quarter. That's because the nation's diplomatic interests, as well as the future needs of the economy, require success in this field.

On diplomatic grounds, there are two reasons for pushing atomic power:

• To protect our valuable foreign sources of raw uranium. Countries that own the mineral deposits are demand-

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smart maintenance superintendent. Years ago, he started replacing worn-out carbon steel exhaust pipes with new ones made of Inconel®.

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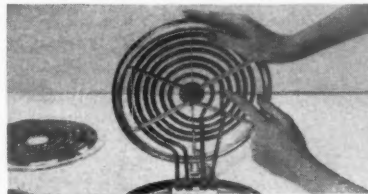
Right now, you may have a metal problem of your own. It doesn't have to resemble this one. Inconel — possibly — is not *your* answer. But remember, there are more than 50 *other* Inco Nickel Alloys available. Find out whether one of them offers the means of transforming a cherished "pipe dream" of *yours* into a reality! Let's talk it over sometime soon.

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Q. Where would you be likely to see Inconel?



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Q. Where can you find more information on Inconel and half a hundred *other* problem-solving Inco Nickel Alloys?

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ing our help in starting their own atomic power projects.

• **To demonstrate** to the rest of the world that we are more interested in peaceful potentialities of atomic energy than in its destructive uses. Russia recognizes the pull of this kind of approach. That's why it announced last June the completion of an experimental 5,000-kw. plant and the construction of 50,000-kw. and 100,000-kw. units.

Of course, progress in atomic power is basic to the President's proposal for an international body to promote non-military uses of nuclear fission.

• **Weapons Well in Hand**—All this adds up to the fact that Washington now gives atomic power almost as high a priority as atomic weapons. It means, too, that the men who make such decisions are convinced we can have atomic power without jeopardizing our effort to make and improve nuclear weapons.

All evidence points to a healthy condition in the weapons program. For instance, for the first time since the Russians exploded their first atom bomb in 1949, no responsible government official is urging further expansion of our atomic weapons plant. New plants will be built, to be sure, but they will merely supplement or replace present facilities—not revolutionize bomb production.

Clearly, we have a widening variety of atomic weapons, ranging from artillery shells to bombs that can wipe out a city or an army. Clearly, too, our scientists have found out how to make that most fearsome and hush-hush weapon, the hydrogen bomb, in large numbers.

• **Change of Heart**—These factors were in the minds of Congress when the new atomic law was enacted last year. Congress was impressed with the urgency of the need for exchanging atomic data with other nations. It was a little more hesitant about turning any part of the atomic power development over to industry, but it did that, too.

How Much Help?

Until the new law was passed last year, industry ownership and operation of nuclear plants was forbidden. Since the change, a new Congress has been elected, with political leadership changing hands. Conceivably, the new Congress could discourage commercial atomic development by revising the law or its administration.

This appears improbable, if only because the nation's atomic power program is now geared for gradual change-over to operation by industry. To put the brakes on this shift would delay for years the achievement of economically useful power.

• **Two Courses**—In financing the first atomic power projects, industry can fol-

low either of two courses. Most companies are getting government help in cash as well as knowhow. A few, specifically Consolidated Edison, are determined to build plants strictly with their own capital.

Strictly speaking, of course, no one could possibly get into the atomic power business without some government help. The government holds the entire atomic fuel supply; the government has the mass of technical data; the government has the only laboratories for some forms of research and testing.

• **AEC Program**—For at least two years, government and industry have been batting back and forth the question of how much additional federal aid—if any—is needed to launch the atomic power

industry. Now, AEC has laid down the first specific plan for such aid (BW—Jan. 15 '55, p30).

AEC proposes three types of support to industrial groups whose power plans gain the commission's approval:

- Free loans of nuclear fuels.
- Free use of government laboratories and test facilities.
- Cash support through AEC contracts for research and development. Such contracts require the plant-builder to turn over the resulting data to the commission, which will make it available to industry at large.

Plans must be submitted by Apr. 1, and none will be considered that do not blaze new paths in power reactor technology.

II. The Economics of Utilities

Presumably, AEC's offer is open to any technically and financially responsible business concern. Actually, though, almost any company that qualifies is bound to be a public utility. No one else has a use for large blocks of power.

AEC's support plan partly meets the utility industry's two most serious problems in atomic development:

• **High cost of plant**—two to five times the cost of conventionally fueled capacity, probably even more in early stages of development.

• **Uncertainty about the future economics of atom-fueled plants.**

• **The Bigger the Better**—Only the largest utility companies can swing the financing of a large-scale atomic plant, and a large plant is what's needed. Costs of the reactor, the heart of an atomic-electric plant, do not rise in proportion with its capacity to produce power, so the big plants offer the greatest hope of coming close to competing with conventional plants.

Utility men generally think about atomic plants of 100,000 kw. and up. No such plant is yet built or even under construction, but best guesses put the cost now at \$100-million or more; if you wanted to duplicate a plant on which research and development had already been done, you might bring cost as low as \$30-million. A conventional steam-electric plant runs about \$14-million.

• **The Spur**—You'd think such high installation costs would scare off almost any business manager, particularly in the cost-conscious utility industry. But the prize—an alternate for fossil fuels—is too tempting for utilities to ignore.

Potentially, there is as much energy in 1 lb. of fissionable material as in 1,300 tons of coal. Besides, even today there is hope that you can build an atomic plant with a useful life approaching the 35-yr. to 50-yr. span of conventional plants. And you can build with

a good chance of improving its operating efficiency as time goes on.

For example, to get long "burn-up" of fuel, you might clad it with expensive zirconium, as was done with the fuel elements in the atomic submarine Nautilus. Progress in government and industrial laboratories on improving the fuel elements and cutting their cost is so promising that you might expect to have fuel units you could burn a lot longer by the time you have replaced the first few charges.

Moreover, in building your first plant, you and your suppliers would learn how to build a second one much more cheaply. That has been the government's experience in building reactors. For example, it could now replace the Nautilus reactor at less cost and for better performance.

Again, the larger utility systems don't have to insist that an atomic plant compete with their most modern, most efficient generating facilities. At any given time, they have on standby a lot of older, costlier equipment. Some of this could be replaced by a big atomic plant without involving too great an increase in over-all costs of the system.

Of course, an atomic plant wouldn't be relegated to standby. To get electricity at lowest possible cost, you'd keep it producing as long as you could. You'd put some other unit into reserve.

• **Return Limited**—Even for utilities, there are major drawbacks. For example, they can't build such plants in the interest of technical progress and then pass the extra cost along to the customers—their rates are strictly regulated. Nor would they be allowed to recoup the added cost of producing power once the atomic plant had been built. In the first plants at least, production cost is certain to exceed the 6 to 9 mills per kilowatt-hour of a modern coal-fired plant.

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AEC lent the fissionable material, even though the plant owner would still have to pay for the portion he "burned up" and for reprocessing unspent fuel.

Only a small part of the fuel is fissioned, or "burned up," before the fuel element must be pulled out. For one thing, fission products that slow the process—such as cadmium and samarium—must be removed. Also, continued exposure to radioactivity and other corrosive influences so deteriorates the fuel containers in present reactors that they must be taken out sooner than optimum power conditions would dictate.

• **Pay Plan**—AEC will demand full payment for spent fuel and for reprocessing over a period of seven years of plant operation. However, probably not over 2% of the fuel in the first atomic plants would be burned up in seven years, so an AEC loan would save a plant-builder 98% of fuel costs.

Better fuel elements and operating techniques may eventually raise the burn-up to 20%.

Scientists are hard at work, too, on cutting the extremely high costs of reprocessing fuel. Methods of chemically separating uranium and plutonium from the fission products are now too costly and too tedious for the demands of a large-scale atomic power industry.

Despite these cost hazards, the utilities are rushing to develop atomic plants.

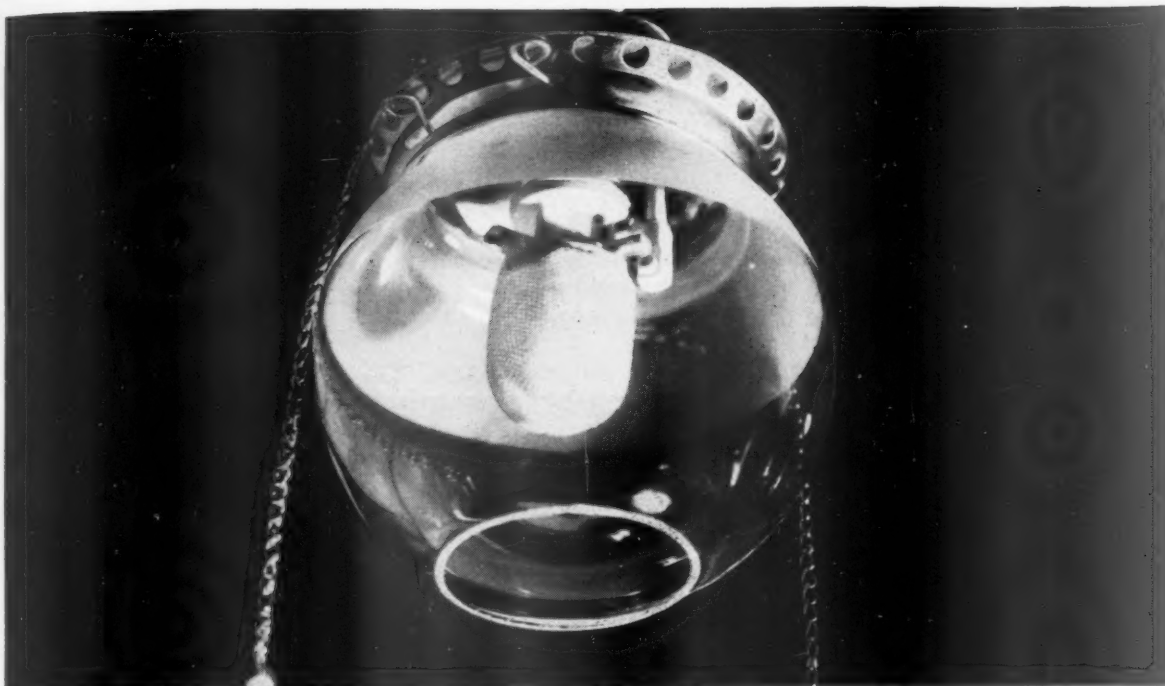
Who's Interested?

The 18 companies and groups that are studying atomic power, some for as long as three years, include utilities from every section of the country. According to Walker L. Cislser, president of Detroit Edison Co. and leader of the largest study group, the participating utility companies produce 55% of the nation's commercial power.

Individual companies in New York, Pennsylvania, Illinois, and California—to name only a few localities—are interested chiefly in big plants that they hope can be made more efficient by new equipment, new techniques. On the other hand, groups such as Yankee Atomic Electric Co., organized by New England utilities, may start with smaller plants, say 50,000 kw. to 75,000 kw. Yankee Atomic may be among the first groups to ask AEC help.

The smaller plants might never match conventional facilities in efficiency in areas where ordinary fuel is cheap. But they can point the way to improvements in plant design and operation.

In New England which uses much power and is remote from natural fuel sources, utilities may well stand to gain the most by gambling on a demonstration atomic plant.



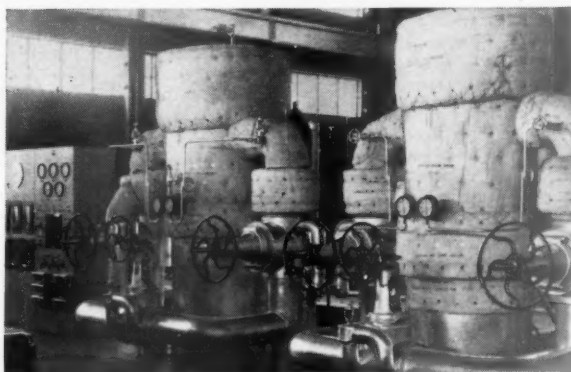
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You may remember this gas lighting fixture—and how electricity outmoded it. Rapid progress was the reason—in electric generation, in boilers, and in controlling steam power with valves. And like electricity, valves have come a long way. Valves today are basic tools of industry for controlling all fluids.

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CRANE'S FIRST CENTURY...1855-1955

These Reactors Are Already Being Planned or

TYPE OF REACTOR ^a	BUILDER	CAPACITY	SPECIAL FEATURES
Pressurized Water	Westinghouse Electric Corp.	60,000-75,000 kw.	First commercial project; Duquesne Light Co. will operate it
Boiling Water	Argonne National Laboratory	5,000 kw.	Will deliver steam directly from reactor to turbine
Sodium-Graphite	North American Aviation, Inc.	None	As of now, only a test of the liquid metal heat exchange system
Breeder	Argonne National Laboratory	15,000 kw.	Designed to produce more fissionable fuel than it consumes
Homogeneous Thorium	Oak Ridge National Laboratory	16,000 kw.	Liquid state of the fuel will simplify reprocessing; thorium will be converted to fissionable uranium-233

III. One of These May Run the Power Plant of t

In the atomic power plant, the nuclear reactor replaces only the boiler unit of a conventional generating plant. In present plants, steam production accounts for only 15% to 20% of the total cost of delivering a kilowatt to the customer's meter.

This reduces the area for profitable savings for utilities that convert to atomic fuel. Even the most enthusiastic proponents of atomic power claim only a mill or so of saving on total power costs, and then only after years of improvement in reactors. However, the utility industry has traditionally had to look for small savings.

The chart above shows the lineup of reactors that are in the early stages of development. They have differing advantages and drawbacks; admittedly, none is perfect, yet together they represent a spectacular advance in atomic power over the past 10 years.

Pressurized Water Reactor

Farthest advanced of AEC-supported power plants is the pressurized water reactor (PWR) under construction at Shippingport, Pa. (BW—Jun. 5 '54, p100). It is scheduled for completion in late 1957 or early 1958.

The Atomic Energy Commission will

retain title to the reactor, which is being built by Westinghouse Electric Corp. Duquesne Light Co. of Pittsburgh owns the site, is kicking in \$5-million toward the cost of the reactor, and is buying the conventional generating units that will be hooked up to the reactor. Duquesne buys the steam from AEC.

• **Experienced Builder**—Westinghouse has already built two smaller reactors of the same general type: the actual seagoing propulsion unit for the submarine Nautilus and a land-based prototype of it. For savings in fuel cost per pound, however, the Duquesne plant will use fuel that's less rich in uranium-235 than the submarine fuel.

Westinghouse recently regained an AEC contract for another PWR, this one for a large warship. Earlier it once started preliminary work on a similar unit for an aircraft carrier, but that was canceled in 1953 when the federal budget was being trimmed.

Despite its pioneering with pressurized water reactors, Westinghouse isn't wedded to producing this type exclusively, according to its president, Gwilym A. Price. (Some of his competitors are gloomily predicting that Westinghouse will win a contract from Consolidated Edison regardless of what

type of reactor is chosen for the Indian Point plant.)

• **How It Works**—In a pressurized water reactor, the coolant water is kept under tremendous pressure to keep it from boiling as it circulates through the reactor. This water, which becomes radioactive in its trip through the atomic pile, travels to a heat exchanger where it turns another, nonradioactive circuit of water into steam to drive the turbines.

Like other types of reactor, PWR has inherent features that limit its value as a source of power in large quantities. The whole reactor has to be pressurized, and the pressure sphere that houses it is extremely expensive to build and maintain. Even then, temperature of the pressurized water can be raised only to about 600F. This is well below the temperatures that power companies have favored in recent years. It limits efficiency of the plant to about 25%; new conventional plants operating at higher temperatures exceed 35%.

• **Costs**—The 60,000-kw. plant of AEC and Duquesne will cost an estimated \$84-million. That puts installation cost at around \$1,400 per kw.—about 10 times as much as in conventional plants. However, half the \$84-million is being spent on research and develop-

or Built

ESTIMATED COST	SCHEDULED COMPLETION
\$84-million, of which Duquesne contributes \$5-million	1957-58
\$17-million	1956
\$10-million, of which North American contributes \$2.5-million	1955
\$40-million	1958
\$47-million	1959

(BUSINESS WEEK)

of the Future

ment. A second plant of the same design and specifications might be built for \$42-million or less, reducing installation cost to about \$700 per kw.

Even the lower figure is high, of course, in comparison with the \$140 per kw. of conventional plants.

• **More Ships**—With its experience in ship propulsion, Westinghouse may be in line for a bundle of new reactor contracts. Top Navy officials are talking now of fitting all their submarines and many of their large surface ships with atomic engines.

General Electric Co. is also deep in the shipboard reactor business. GE is building a reactor of an entirely different type for the submarine Sea Wolf and is also designing a more advanced high-powered unit for submarines yet to evolve.

Newport News Shipbuilding & Drydock Co. and Bethlehem Steel Co. both have Navy contracts to study designs for large atomic-powered ships.

Boiling Water Reactor

Another reactor of AEC's five-year program that has short-range possibilities is the boiling water reactor, being built by AEC's Argonne National Laboratory. Generating equipment will

come from Allis-Chalmers Mfg. Co. The reactor is strictly experimental, with a capacity of only 5,000 kw.

This type of reactor was almost passed up by the atomic scientists. It allows water to boil inside the reactor, with the steam going directly to a turbine. If it works on a large scale, it will eliminate the costly heat exchanger that other reactors require.

For years, scientists brushed aside this simple method of carrying heat from the reactor. They assumed that the presence of boiling water would inhibit the fission process.

Argonne scientists, headed by Director Walter H. Zinn, decided to test this objection, and got strong evidence that boiling water would have no adverse effects on the fission process. The experimental reactor will show whether the radio-activity of the steam causes enough corrosion in the turbine to rule out this type of reactor as a source of commercial power.

Sodium-Graphite Reactor

North American Aviation, Inc., is working for AEC on a reactor that uses liquid sodium to carry the heat. Other contractors, notably GE, have also worked with molten metals as coolants, but the North American unit is the first all-out test under power plant operating conditions.

This reactor, to be completed by the end of the year, won't produce electricity—just heat. It would be a simple matter to convert this heat to electricity, but the experimenters are avoiding the cost of the generating unit.

North American is putting up \$2.5-million of the \$10-million cost of research, development, and construction. The company hopes eventually to supply power units to utility companies.

Breeder Reactor

After successful experiments with a small breeder reactor (170 kw.), the Argonne lab is building a larger model, up to 15,000-kw. capacity. The breeder uses the principle that, under carefully controlled conditions, a reactor can produce more fissionable material than it consumes. Argonne's breeder is converting the unfissionable isotope uranium-238 into fissionable plutonium.

Homogeneous Reactor

Oak Ridge National Laboratory is continuing experiments with the homogeneous reactor—a unit in which fuel, coolant, and the moderator that controls the fission process are mixed in a single solution. It has the great advantage of simplifying fuel reprocessing.

The solution can be chemically proc-



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essed to remove the contaminating materials that are formed during fission, then fed back into the reactor. Chemical processing is much simpler than the metallurgical separation required by reactors that use solid fuels.

Oak Ridge is building its second experimental homogeneous unit and is aiming at a third reactor with an electric generating capacity of 16,000 kw. This reactor will also have a fling at breeding—to convert thorium to fissionable uranium-233.

• **Thorium**—Oak Ridge has been taking a very long—and very quiet—look at thorium as a much-overlooked source of fissionable material. Thorium looks as if it might be superior to uranium-238 for use in two types of power reactor: the converter (a reactor that produces some new fissionable material) or the breeder (which produces more fuel than it burns).

In either type, some of the neutrons released in the fission process are used to transmute thorium atoms into uranium-233, which is fissionable. This is much like transmuting uranium-238 into plutonium, but there is one big difference: the speed of the neutrons that works best in making the transformation.

Uranium-238 prefers neutrons traveling at high speed. Ideally, when you are trying to convert as much U-238 into plutonium as possible, you should use fast neutrons, but the technology of handling fast neutrons is still limited.

Thorium, on the other hand, prefers neutrons traveling at slow, or thermal, speeds. We know more about thermal reactors—all those we have are in this class except Argonne's experimental breeder (fast neutrons) and General Electric's Sea Wolf reactor (intermediate speed).

So, assuming that thorium is as available as U-238 and as readily handled, it would seem that production of U-233 from thorium in power reactors is a better short-range prospect than production of plutonium from U-238.

• **Not Ready Yet**—Doubtless, Oak Ridge's unwillingness to say much about its work with thorium is based partly on reluctance to touch off a thorium speculation boom like the present one in uranium. Actually, no such boom would make sense: Any real market for thorium probably must wait until a large atomic power industry is established; the present boom in uranium rests on military demand for bombs.

With military demands for fissionable materials well filled by present and nearly completed capacity for U-235 and plutonium, there is little urgency for the government to get into comparable production of U-233 from thorium.

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IV. AEC: The Men Who Set the Rules for Atomic Energy

The Atomic Energy Commission (pictures) has ridden out one year of big change—in public policies and in its own top management—and is bumping briskly through another. Again its function and policies are changing, and so is its management.

Changes in Function

Last year's new atomic law gave AEC an added responsibility—regulating the atomic power industry. That was in addition to its still-primary mission of developing and producing nuclear weapons. Now the commission's decade of expanding the weapons plant is just about fulfilled, and the roads to atomic power have at least been marked out.

Thus, in 1955, AEC's chief concern shifts from innovation to regulation.

This doesn't mean that AEC laboratories will be less exciting places for scientists and engineers to work. There remain plenty of challenging problems. It does mean, though, that AEC's new mission calls for new administrative skills. Most important, high-level officials must learn to deal more wisely with politicians, the press, and the public.

• **Security Screen**—Since its founding in 1946, AEC has enjoyed a degree of immunity from outside prying that is unique among government agencies. Most of its activities have been so strategically secret that Congress was content with reports by AEC to the handful of congressmen on the Joint Committee on Atomic Energy.

There is no reason to think the commission abused this unusual freedom. Vast sums of money have been spent—more than \$13-billion in tax dollars—but no one seriously believed that they have been misspent.

AEC has made mistakes, but not of profligacy or graft. The mistakes have been more in the area of intra-governmental and public relations. Its officials always can—and sometimes do—duck be-

hind the secrecy curtain rather than discuss the most routine matters.

Changes in Men

Since Lewis L. Strauss (picture) became AEC chairman in mid-1953, there has been an all but complete turnover among the commissioners. Besides Strauss, the commissioners now are Thomas E. Murray and Willard F. Libby, with John von Neumann (pictures) designated but not yet confirmed by the Senate. There is still one other vacancy on the five-man commission.

Murray is the only member who remains from pre-Strauss days. His term will expire in June, 1957.

• **Down the Line**—Turnover among lower-echelon officers has also been heavy. General Manager Marion W. Boyer resigned in November, 1953, and now his successor, retired Army Maj. Gen. Kenneth D. Nichols, has announced his resignation as of next May. Several other key staffers have also resigned.

Some resignations almost certainly arose from basic disagreements with policies of the new AEC regime or those of the Eisenhower Administration. But most came from the sharpened interest of industry in atomic developments—from job offers that AEC staffers felt they couldn't afford to turn down.

Despite rumors to the contrary, there have been no wholesale resignations at AEC's laboratories even though many scientists bitterly resented the commission's slap at J. Robert Oppenheimer, followed closely by lack of comment from Washington about two journalists' book purporting to tell the inside story of the hydrogen bomb.

To refute portions of the book, Los Alamos laboratory director Norris Bradbury felt impelled to call a press conference—the second in the lab's history. Los Alamos staffers thought Strauss should have conducted such a press

conference in Washington. But none of them quit.

You get the impression at the AEC labs that the scientists there are generally contented. In many cases they're doing a kind of research that they couldn't hope to do in college or industry, and they feel they are contributing to national security. Unless Washington makes their lives a lot more unpleasant, few will be inclined to resign.

• **At Headquarters**—Where hostility does exist—at headquarters in Washington or in the field—it comes partly from Nichols' assumption of responsibility for most day-to-day operating procedure. This has advantages, obviously, over the old system under which, according to one former commissioner, such matters as how many paper towels to buy for a given laboratory came at AEC meetings. But it has confused and irritated many staffers by throwing even routine decisions into the general manager's office. And some companies doing business with AEC grumble that "it takes a year to get anything across Nichols' desk."

• **Changes to Come**—Nichols' retirement is almost certain to change the general manager's function once more.

Chmn. Strauss obviously believes the general manager should play a big role, but he can no longer write his own ticket on such matters. Murray, with whom he has had an open break on other issues, almost certainly will insist that the commissioners keep a tighter rein on a new manager. Libby and von Neumann, if he is confirmed, likewise aren't likely to be satisfied with a merely advisory job.

• **Dixon-Yates**—The commission is also deep in the Congressional fuss over the Dixon-Yates contract (BW—Nov. 13'54,p27). Chmn. Strauss must bear the brunt of the fight, insofar as it involves AEC. He favors the contract, while Commissioner Murray, none too enthusiastic about it last year, has flatly recommended that the controver-



JOHN VON NEUMANN

Atomic Energy

sial contract be dropped. Dissension over this case has interfered with other work of AEC, he contends.

• **Harmony on Power**—Brilliant, sensitive Lewis Strauss has lately shown a new awareness of his public relations responsibilities, which should help him in his dealings with Congress. In the past, he has been prone to lose his temper under political attacks.

Then, too, he will get all the help he asks from Commissioners Murray and Libby on encouraging industrial development of atomic power. Both men share his conviction that the time has come to get atomic power out of the AEC labs and into practical use.

The commission has, however, abandoned an out-and-out subsidy plan for atomic power that Dr. Lawrence Hafstad proposed before his recent retirement as head of AEC's reactor development division. Hafstad suggested that utility companies building atomic plants be asked to put up only the sum that would pay for conventional plants of the same capacity, with AEC making up the difference.

This proposal might have spurred industrial programs more than the aid plan that was adopted, but it would have been a heaven-sent target for politicians who were looking for signs of a giveaway.

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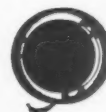
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• **Family Trees**—The air of quiet but substantial distinction that attaches to the Chase name is borne out by the fact that the largest piece of U.S. folding stuff in circulation, the \$10,000 Federal Reserve note, bears the features of

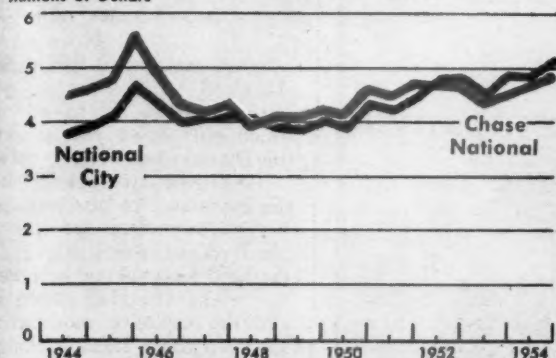
Mr. Chase. Actually, Salmon P. Chase, Lincoln's Secretary of the Treasury, was only a sort of godfather to the Chase National Bank. As the statesman who brought about the passage of the National Bank Act, which established our system of national banks, Chase was "admired and venerated" by the founding father, John Thompson, who named his bank after Chase in 1877.

And an even more illustrious financial name now stands behind the Chase National: that of Rockefeller. No outsider knows exactly what the Rockefeller holdings at Chase amount to; they are certainly substantial, and the most frequently heard guesses around Wall Street run to something like 5%

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Bank Deposits

Millions of Dollars



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in Greater New York

of the \$397-million in capital funds (total assets: \$5.9-billion). Today 44-year-old Laurance S. Rockefeller, with 15,000 shares of his own, sits on the board of directors. And 39-year-old David Rockefeller is senior vice-president in charge of the Metropolitan (New York) Dept. It is within David's domain of Greater New York that the merger with the Bank of the Manhattan Co. has its primary significance (map above).

The Bank of the Manhattan Co., though only about one-fourth as wealthy (capital funds, \$97-million; total assets, \$1.7-billion), can claim an even more venerable lineage than Chase. The Manhattan, founded in 1799 by

Alexander Hamilton and Aaron Burr, is the oldest bank in the U.S. As a kind of engagement ring, Manhattan has sent Chase a segment of the old wooden water pipe it laid in the legendary days when the Manhattan Co. was chartered to provide water for the city of New York.

• **Rivalries**—But it was certainly not for Manhattan's name, and only incidentally for its capital, that Chase National so ardently sought a merger. To understand Chase's motives, it is necessary to examine the New York and national banking picture today, and consider how the Chase-Manhattan merger will affect it.

Chase—the Chase National Bank of

the City of New York, to give it its official title—is today the second biggest bank in New York, third in the nation. But the nation's biggest, the Bank of America, with its \$9.2-billion in assets and its 548 branches spread across California, is not the competitor Chase worries about. Chase faces its real competition in New York—in particular in the corporate person of the National City Bank (capital funds, \$553-million; total assets, \$6.3-billion).

Chase had run well ahead of National City in the race for deposits until 1947 (chart left). In that year, Chase deposits were still declining from their peak at the start of 1946, while City's deposits firmed and then rose, to narrow the gap between them.

In 1948, City got a stride ahead of Chase, but in 1949 Chase broke to the front again. From 1948 to 1952, the lead changed hands six times. Finally, in the second quarter of 1952, City went out in front and hasn't been headed since.

The dramatic shift in their standing is underlined by their respective shares of total New York deposits: Chase, which in 1940 had 19.8% of New York's deposits, today has 18.2%; City, which in 1940 had only 16.7%, now has 19.8%.

I. Donning the Brown Derby

National City got the extra punch for its stretch drive essentially from its local branches: City has 74 banking offices in Greater New York, Chase only 29. This source of power has been a key factor, all along the line, in determining who went up and who went down in New York banking (BW—Jan. 22 '55, p56).

First take the banks that were in a position to compete for "retail" business through their numerous branches, the so-called "brown derby" banks. Manufacturers Trust, with 112 banking offices, climbed from 5.1% of New York's deposits in 1940 to 9.2% in 1954; the Manhattan, with 58 offices, from 3.9% to 4.6%; Chemical Corn Exchange (putting together the 1940 totals of the two banks now merged), with 98 offices, from 4.6% to 7%.

Then look at some "blue ribbon" banks, with no branches or very few. Guaranty Trust in 1940 had 14.7% of deposits in New York; today it has only 9.1%. Central Hanover has slipped from 7.6% to 5.5%; First National from 4.9% to 2.1%.

• **Many Reasons**—A number of basic economic developments in the U.S. account for the superiority of brown derby over blue ribbon:

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relatively well-heeled American middle class.

- Heavily progressive taxation, which cuts down the importance of the few very-well-heeled customers.

- High estate taxes, which decrease the importance of trust business.

- Government monetary policies, which reduce interest rates and increase the need for a volume business.

- The changing pattern of cities and the explosive movement to the suburbs, which affect banking as they do retail business.

- The rapid rise of other economic regions—the Midwest, Southwest, and Far West—and the consequent growth in the competitive strength of banks in the hinterland. This means that lots of big customers—auto companies, for instance—can bank quite happily in their home towns without having to come to New York for capital.

- The changing economic habits of the American people, particularly their fondness for going into hock to buy what they want when they want it. The slowness of commercial banks to capitalize on this trend accounted for the rapid rise of the powerful commercial credit outfits.

- The intense competition for big customers from the life insurance companies and the commercial credit companies. In this contest, the commercial banks are prevented by law from lending more than 10% of their capital funds to a single customer. Their competitors are not so limited.

- **Drummers**—These factors, taken together, explain why the big New York banks have to compete for business as never before.

Their traveling salesmen (who are generally vice-presidents in charge of regions) are out on the road a good part of the time from early fall through late spring, listening to Chamber of Commerce after-dinner speakers, buying heavy steer steaks for potential customers, chasing golf balls, drumming up trade in all the low-pressure ways a banker must pursue.

The big New York banks still function also as bankers' banks—holding balances for and participating in loans with smaller banks in the hinterland. So a considerable amount of their out-of-town business comes to them through their correspondents' contacts with local customers whose businesses have outgrown local banking services.

But the most obvious effect upon the big banks of this heightened competi-

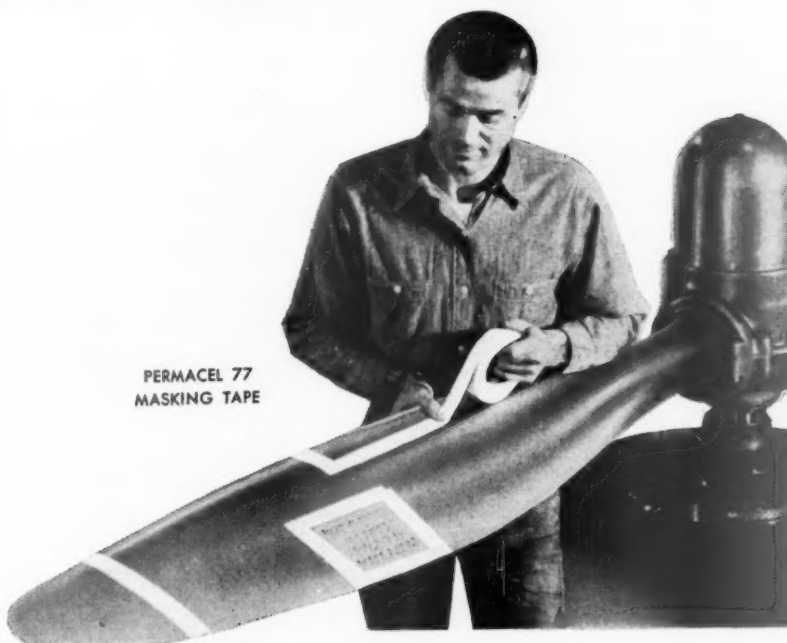
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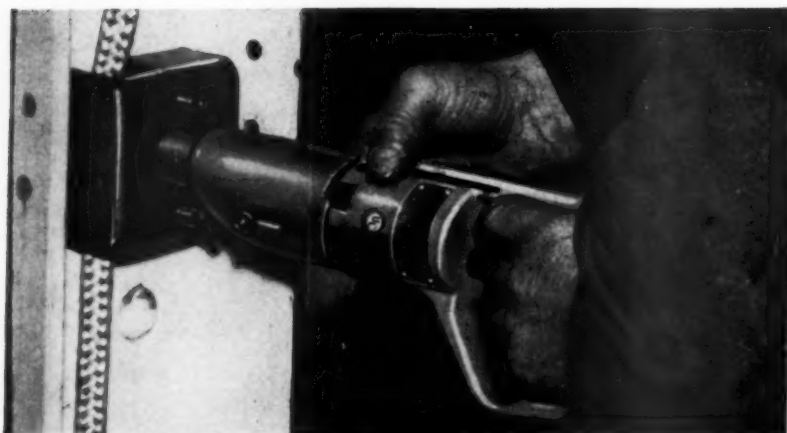
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tion has been the drive to brighten the corner where they are—by granting loans for personal needs, home appliances, property improvements, automobiles, by attracting more regular and special checking and savings accounts, by doing more business with the neighborhood butchers and bakers and delicatessens. This, then, is brown-derbyism.

• **Overpowering**—Some of the blue-ribboners, such as First National and Hanover—don't seem to mind their relative loss of status. But for Chase the longing to maintain and improve its position by donning the brown derby was overpowering. This has been behind Chase's vigorous advertising campaign (which cost \$1,350,000 last year). It's the theme in newspaper and magazine ads ("Why don't you talk to the people at Chase?"), on the radio, on TV, in the subways ("Compare these rates and attractive terms").

This is also why Chase has people standing beside payroll lines, gently soliciting accounts—and why Chase Pres. Percy J. Ebbott has urged his staff to "recognize opportunities for making more and more people" share the prestige of being a Chase customer.

• **Cautious, Too**—But for a bank, there are limits. Ebbott's staff memo carries a note of caution: "It is . . . most important that we should not embarrass ourselves, our friends, or acquaintances by soliciting a regular checking account or a commercial loan without first having the name approved within the bank. Secondly, we should make it clear to the prospect that our high standards necessitate a certain amount of investigation for his own protection and the bank's."

That is the rub in banking: to give the loan, but also get it back. And that is why enthusiasm and advertising can go only so far in converting a blue ribbon into a brown derby; it takes time and patience, too. A satisfied customer of one bank usually isn't going to switch to another just because of high-type institutional advertising. And he's certainly not going to travel downtown or across town if there's a perfectly respectable, FDIC-insured bank right at the corner.

• **But Why Merge?**—A stubborn anti-mergerist might argue: Why, then, doesn't a big bank go out and develop its own branches to get this business.

An honest explanation was carefully spelled out last October by Chmn. N. Baxter Jackson of the Chemical Bank when his institution took over the 79 branches of the Corn Exchange. "In our opinion," he said, "not in the foreseeable future can any New York bank establish 79 offices in suitable locations in the five boroughs." He gave these reasons:

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Now— North Carolina is selected for a **FOURTH** General Electric plant

PLANT No. 1
Located at Goldsboro, N. C., in the broad Coastal Plains area, this plant started production in April 1946. Here General Electric manufactures **LAMP WIRE**.

PLANT No. 2
At Asheboro, N. C., in the eastern part of the Piedmont area. Dedicated in June 1952, this modern, efficient plant produces the well-known **GE AUTOMATIC ELECTRIC BLANKETS**.

**ANNOUNCED
DEC. 1954**

PLANT No. 3
Near Hendersonville, N. C., in the scenic Mountain area. This multi-million dollar plant, in a 200,000-square foot building on a 50-acre site, will be headquarters for the **OUTDOOR LIGHTING DEPARTMENT**, with its own research, engineering and sales activities as well as manufacturing, financial and general management. General Manager L. Byron Cherry says: "The Hendersonville site was selected after careful consideration of more than 200 other communities in 13 states." The climate, attitude of the people and quality of the potential workers were influential in the site selection.

**ANNOUNCED
JAN. 1955**

PLANT No. 4
Between Hickory and Newton, N. C., in the western part of the Piedmont area. This is to be a \$20,000,000 completely self-contained plant for the manufacture of **POLE TYPE DISTRIBUTION TRANSFORMERS**. An additional plant in the great GE system, it is not a transfer from any other area. In his announcement, General Manager Raymond W. Smith said: "We decided to locate here in another of our company's expansion moves because this section came closer to meeting our requirements than any others we saw. We feel the Southeast section of our nation offers the greatest opportunities for the future."

Actual experience is the best test of any area's advantages for plant locations and expansions. General Electric's selection of *additional* sites in North Carolina is a procedure shared by other companies, large and small, in a variety of industries.

Western Electric has four plants here and is still expanding. American Enka expanded in North Carolina when it added a nylon plant to its huge rayon establishment. Talon, Inc., whose first plant in this state began operating in August, 1953, added another—three times as large—just a year later. In 1954 Cornell-Dubilier added a 275,000-square foot plant, at a different location, to one in operation since 1951.

The roster of companies that have selected North Carolina for second and multiple plants is eloquent testimony of satisfaction to a high degree.

Why have these industries chosen North Carolina, the South's leading industrial state? The answers are as varied as the sites themselves. Heading the list is abundant labor with a proven record of productivity. Accessibility to major

markets, excellent transportation facilities, and year-round mild climate are other determining factors.

In its 500-plus miles between the coast and the mountains, mid-South North Carolina continues to offer unlimited opportunities for industry.

Many sites, some with buildings, have been analyzed and are described in available briefs, along with pertinent information about the state as a whole. For a copy of the North Carolina industrial brochure, just write, wire or phone Ben E. Douglas, Director, Department of Conservation and Development, Raleigh 4, N. C.

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Where Industry Prospers



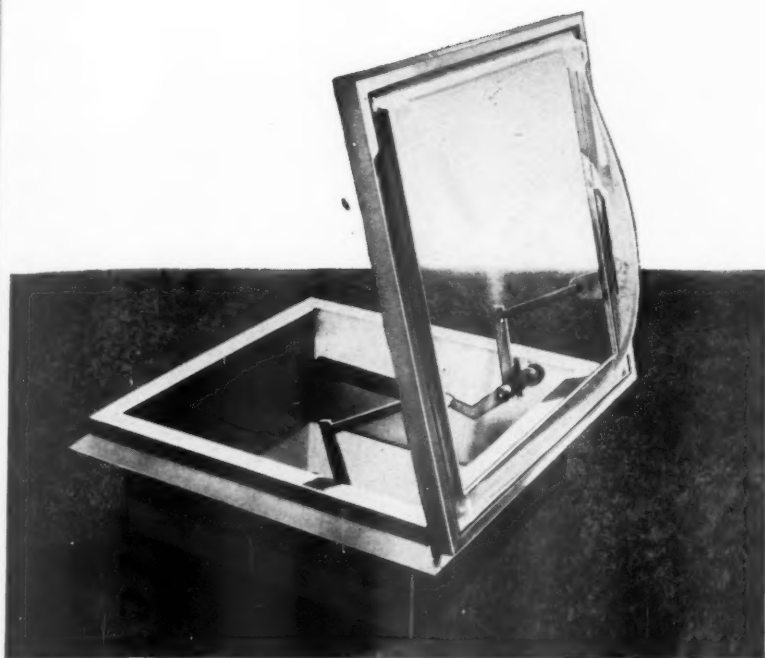
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BUSINESS WEEK • Feb. 12, 1955

**"... the end of the affair
had tongues wagging all
over Wall Street . . ."**

NO. 1 BANK starts on p. 116

- "Anyone undertaking such a task must obtain permission from the regulatory bodies under which our banks operate. We doubt very much if this could be obtained for 79 new offices.

- "We are convinced from our extensive studies that such locations are not obtainable today at prices which the bank could afford to pay.

- "We had practical experience in what it costs to equip a new office. The cost of establishing any such number would be absolutely prohibitive.

- "Let's suppose that one could do all of these things. . . . How much time do you think would be required and at what cost could a bank recruit and train a staff of over 2,000 men and women to handle the business of 79 offices? Also, how much time, effort, and cost would be necessary to bring into these offices 27,000 customers who do business with the Corn Exchange?"

- **Less Cluttered**—What went for Chemical Corn goes generally. The merger movement has been making the New York banking scene rather less cluttered in recent years. In 1940 the city had 72 national banks, state banks, and trust companies with total resources of \$21.1-billion. In 1946 the number was down only slightly—to 69, with \$28.6-billion total resources.

But at the end of 1954, the figure had fallen to 57, with total resources up to \$32.9-billion. The announced sale of Bronx County Trust to the Manhattan Co. and the coming merger of Commercial State with Metropolitan Industrial will reduce the number to 55. The Chase-Manhattan merger will get it down to 54, and Bankers Trust has announced its interest in finding a mate.

II. Royal Suitor

Chase National was eager to join the consolidation movement as far back as 1951. Its eye had been taken by the Bank of the Manhattan Co., with its 58 branches. Chase appeared to be winning its suit—but it seemed that what Chase was after was something less than a church wedding. In effect, Chase wanted to buy Manhattan's banking and trust business. The word "merger" was studiously avoided.

- **Break**—The end of the affair had tongues wagging all over Wall Street. Within 36 hours after announcement to the press that the two banks were considering a "consolidation," the deal was publicly called off by J. Stewart

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Baker, then and now chairman of Manhattan, and Winthrop W. Aldrich, then head of Chase.

The reason given was the discovery by the lawyers that the ancient charter of the Manhattan Co. did not permit it to dispose of any assets without unanimous consent of the stockholders—a condition impossible of fulfillment.

• **Renewal**—Chase's ardor did not cool, however. In 1953 Aldrich left for London to become Ambassador to the Court of St. James, and his post as chairman of the Chase board was taken by John J. McCloy—former president of the International Bank for Reconstruction and Development (1947-49), and former U.S. High Commissioner for Germany (1949-53).

The logic that had impelled Aldrich to seek the Manhattan merger still looked powerful to McCloy and his lieutenants.

They picked up the negotiations at the point where they had broken down in 1951. And last month, they finally won their suit with a proposal so sweet that the Manhattan directors could not refuse. The proposal was a full-fledged merger, with Chase giving up its own national charter (in effect, ending its 78-year corporate life) and merging into the Bank of the Manhattan Co. under Manhattan's state charter.

• **Top Personnel**—The "continuing institution," to be called Chase Manhattan Bank, would have two chief executive officers: McCloy of Chase as chairman of the board, Baker of Manhattan as president and chairman of the executive committee. There would be two vice-chairmen: Pres. Ebbott of Chase, and Graham B. Blaine, vice-chairman of Manhattan.

Thus far, things are even. In his talk to stockholders and in interviews, McCloy has insisted particularly on his equality of status with Baker.

It's only when you come to the executive vice-presidents that you find a preponderance for Chase; the four will be Edward L. Love, George Champion, and David Rockefeller of Chase, and Lawrence C. Marshall, now Manhattan president. Among the top men, as all the world knows, it is David Rockefeller who is heir apparent to the throne.

• **Directors**—The new board of directors will number 25—Chase furnishing 15, Manhattan 10. Since Chase now has 24 and Manhattan 19, each must drop nine.

Nudging out surplus manpower is the most delicate part of any merger. Manhattan left it to the directors themselves to choose the 10 to go on the combined board. At Chase, there was no such formal arrangement, but McCloy says he "consulted" his directors carefully in picking the team to carry on. He indicated last week that he had

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NO. 1 BANK starts on p. 116

made his choice but couldn't give out the names yet.

• **Stock**—The merger is to be effected by an exchange of stock. For each share of Chase stock they now hold (book value \$53.68, market value about \$60), Chase stockholders will get 14 shares of common stock in the new institution. Holders of Manhattan stock (book value \$35.37, market value about \$50) will retain their existing ownership.

In all, Chase Manhattan will have 12-million common shares (Chase now has 7.4-million outstanding, Manhattan 2.75-million). Stockholders of both have been advised that dividends on the new stock at the annual rate of \$2.20 per share can be expected. Chase's current dividend is \$2.20—but the 14 for 1 exchange makes the new rate equivalent to \$2.75 on each present share. Manhattan's current dividend is \$1.90.

III. Strong Competitor

Chase Manhattan expects to have the extra strength to earn the bigger dividend. It will have 87 banking offices—96 when Bronx County Trust is added. That will be 22 more than National City—but 16 less than Manufacturers Trust, two less than Chemical Corn.

Chase Manhattan will also be able to make as big a loan to a single customer as National City can—and a considerably larger one than the Bank of America. Chase's present limit is \$35-million; but its national charter doesn't permit including its \$47-million undivided profits in its lending base. Under Manhattan's state charter, it can get some mileage out of these. By combining capital funds, the merged bank will be able to lend about \$50-million to one customer. The Bank of America's maximum loan would be \$35-million.

• **Foreign**—Manhattan's foreign business, through correspondent banks, will put the merged bank in a stronger position to try to wrest leadership from National City in this field. Neither Chase nor City will give you exact figures on foreign business. However, according to the latest available reports of the New York Clearing House, foreign deposits of Chase National are \$447,888,000, while National City's foreign deposits are reported at \$625,134,000, or almost 40% higher.

McCloy, with his diplomatic background, is intensely interested in developing foreign activities. He sees increased foreign activity by private banking institutions as part of U. S. assumption of world leadership.

IV. How Big?

Manhattan's Baker, on whom much of the daily chore of running operations of the new bank would seem to fall, sees such mergers as inevitable. His view is simply that banks have to keep pace with development of the U. S. economy. If industrial agglomerations of capital get bigger, the banks serving them must do the same. So far, he says, the banks have lagged in size of units.

• **Disagreement**—Rep. Emanuel Celler (D., N. Y.), new chairman of the House Judiciary Committee, couldn't agree less. He has opposed the merger on the ground that it would "limit competition in a given area," and has urged New York's Gov. Averell Harriman and the state Superintendent of Banks, George Mooney, to block it. If it goes through, Celler threatens that he'll "investigate."

McCloy has replied to Celler by pointing out that Chase and Manhattan today are essentially complementary rather than competitive: Manhattan has 48 branches in Queens, Brooklyn, and Bronx; Chase has two. They overlap only in the borough of Manhattan, where Chase has 27 offices, Manhattan 10.

McCloy further protests that it is incongruous to suggest that "this merger of two New York City banks constitutes anything resembling a monopoly or embodies any element of antagonism to the public interest."

• **Lone Hand**—So far Celler is playing a lone hand. The grapevine has it that Gov. Harriman has advised him to take it easy because of the vital importance of banking and finance in New York. Banking superintendent Mooney, a former New York Times financial writer who is still new to his job, is staying out of the argument until Chase and Manhattan stockholders have voted; but it's clear he has no objections. A check at the Antitrust Div. of the Justice Dept. in Washington indicates no opposition there.

So right now it seems unlikely that Rep. Celler will be able to prevent the Chase-Manhattan merger.



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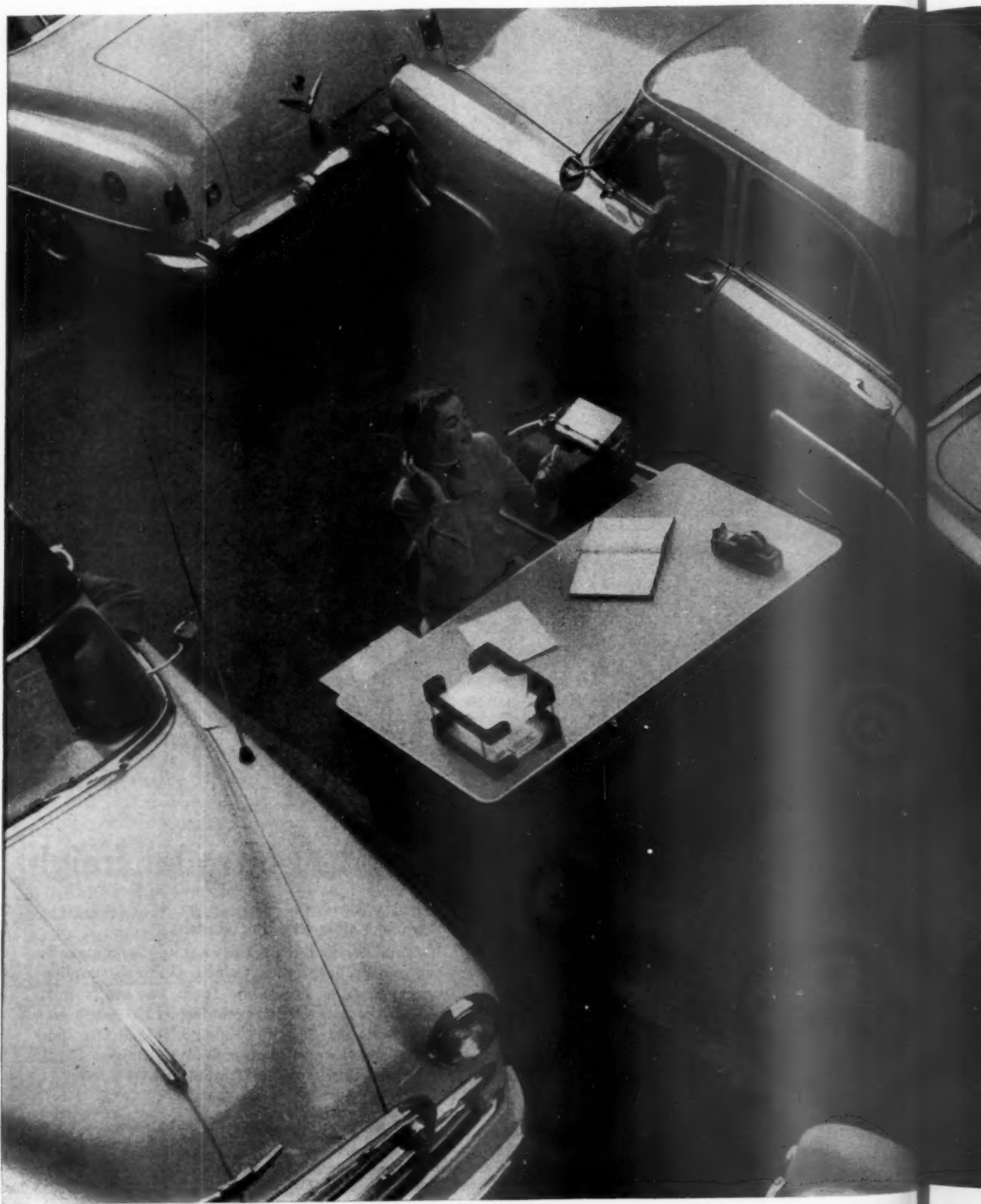
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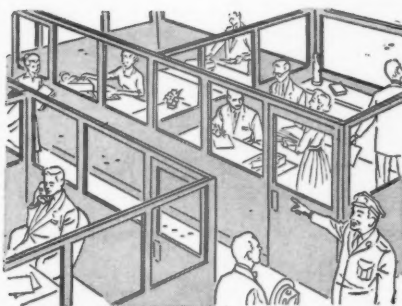
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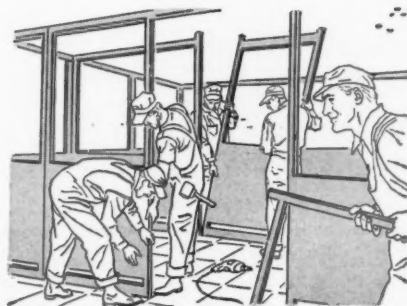
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Bell Aircraft	2-for-1	23.62	48.12	+ 103.7	54.25	+ 129.6
Boeing Airplane	2-for-1	48.00	85.75	+ 78.6	156.25	+ 225.5
Borg-Warner	3-for-1	75.75	115.75	+ 52.8	109.12	+ 44.0
Buffalo Forge	**2-for-1	58.75	61.00	+ 3.8	58.50	- 0.4
Chicago Pneumatic Tool	2-for-1	45.62	73.50	+ 61.1	87.50	+ 91.8
Douglas Aircraft	2-for-1	82.62	133.50	+ 61.6	266.00	+ 222.0
Dunhill International, Inc.	3-for-1	38.50	38.50	—	37.50	- 2.6
General Electric	3-for-1	87.50	124.25	+ 42.0	150.00	+ 71.4
B. F. Goodrich	2-for-1	76.87	128.87	+ 67.6	127.00	+ 65.2
Goodyear Tire & Rubber	2-for-1	53.87	109.25	+ 102.8	115.50	+ 114.4
Gould-National Batteries	**2-for-1	50.50	64.50	+ 27.7	76.00	+ 50.5
Hooker Electrochemical	3-for-1	57.25	88.00	+ 53.7	92.25	+ 61.1
Hussmann Refrigerator	*1½-for-1	20.75	35.50	+ 71.1	29.75	+ 43.4
Ingersoll-Rand	3-for-1	96.25	169.00	+ 75.6	154.50	+ 60.5
Kimberly-Clark	2-for-1	48.50	75.00	+ 54.6	82.00	+ 69.1
M. Lowenstein & Sons	2-for-1	32.00	46.87	+ 46.5	49.50	+ 54.7
National Dairy Products	2-for-1	65.25	89.50	+ 37.2	77.00	+ 18.0
Outdoor, Marine & Mfg. Co.	3-for-1	37.75	84.37	+ 123.5	102.75	+ 172.2
Ruberoide Co.	2-for-1	56.25	71.25	+ 26.6	91.00	+ 61.8
Scott Paper	2-for-1	70.00	99.25	+ 41.8	115.00	+ 64.3
Seaboard Oil	3-for-1	87.50	130.25	+ 48.9	136.50	+ 56.0
Shell Oil	2-for-1	77.00	95.25	+ 23.7	120.00	+ 55.8
Sperry Corp.	2-for-1	46.50	81.37	+ 75.0	101.74	+ 118.8
Standard Oil (Ind.)	**2-for-1	68.50	95.50	+ 39.4	94.00	+ 37.2
Thompson Products	2-for-1	49.00	90.50	+ 84.7	110.75	+ 126.0
Union Tank Car	**2-for-1	45.50	63.00	+ 38.5	56.25	+ 23.6
United Carbon	3-for-2	57.75	75.50	+ 30.7	68.25	+ 18.2
Vanadium Corp.	2-for-1	36.50	76.87	+ 110.6	75.00	+ 105.4
Winn & Lovett Grocery	3-for-1	32.00	60.75	+ 89.8	55.50	+ 73.4

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Pointing to Higher Dividends

Wall Street's seers were in rare form last summer when they opined that 1954 would be a memorable year for stock splits (BW-Jul.31'54,p84).

The record book now shows how right they were. Splits were completed in nearly 100 common stocks that enjoyed a fair amount of market interest. That's almost half again the 1953 total.

Even more significant is the absolute absence of signs that the rising trend has run its course. As the year ended, some 20 more proposals were awaiting stockholder approval; since then, the waiting list has grown appreciably and steadily.

Indeed, the trend is so marked that

long-memorized Streeters are beginning to see unpleasant analogies with what went on in the days just before the collapse of the bull markets of 1929 and 1946 (BW-Apr.27'46,p62).

• **Who's Afraid?**—These worries aren't being shared by the general run of stockholders. The stock splits have been mighty profitable for most of them. That emerges clearly from the sampling above, which matches the recent price performance of 30 stocks that were split last year against that of a popular market yardstick: Standard & Poor's daily index of 30 industrial stocks.

The splits find an even louder cheer-

ing section among the fast-buck speculators who spawn so fast in bullish times. These operators have scored some spectacular in-and-out profits on actual splits, and even on ill-founded rumors.

• **Real Values**—Sober-minded Wall Street technicians—and there are more of them left than you'd guess from the Street's "romantic" literature of late—have always been ruefully amazed by the strange "arithmetic" that the market applies to stock splits.

Actually, a split does nothing to increase the intrinsic value of an issue. It simply increases the number of shares outstanding, with a proportion-

ate boost in the number of shares held by the individual. Thus in a 2-for-1 split, you end up with nothing more nor less than your original piece of cake, now split into two slices.

The catch is that marketeers, notably those inclined to speculate, seldom accept this air-tight logic. They find a bull signal in every proposal, or rumor, of a stock split. As a result, by the time the new shares appear, their going equivalent price is often solidly higher than the shares that sired them.

• **Reasoning**—Logical or not, this tendency is understandable. Here's why:

To begin with, stock splits almost always are broached in bullish times. It's much more practical to split stocks while earnings, dividends, and the price of shares are high, and while spirits are buoyed by the general prospects of business. In such bubbling times, the hypodermic effect of a capital change should be greater.

Of course, companies can have "legitimate" reasons for splitting their stock. The desire, to broaden the market for their shares is one of the most important—and the official explanation of most recent splits. The lower price per share automatically brings the stock within reach of more investors, with an almost automatic increase in trading interest. In boom times, this means higher prices.

• **Dash of Salt**—However sound this reason may be, plenty of stock traders and Street cynics still sprinkle it with a liberal dash of salt. They find that many splits are just a fog spread to obscure the high per-share earnings of the old stock, and to distract attention from rising dividends.

In the old days, companies pointed with pride to high earnings and dividends. They cared not a whit whether the stock was widely held among small investors, or priced so high that only the wealthy could indulge in it.

That's all over now, and not merely because of the shrinking number of wealthy investors. Today's companies fear a shower of bricks from labor and from antibusiness politicians if their shares are priced too high, or if their dividends are fat in terms of dollars. For protection, companies aim at a small return on a large number of shares, diluting the issue still further as earnings rise.

In all truth, these motives seem to govern many stock splits. Generally, splits are followed by boosted dividends, frequently quite high boosts. Companies rarely seem to consider splits unless earnings are high and further strong gains are in the cards.

• **The Case of Douglas**—The cynical faction loves to cite the case of Douglas Aircraft to illustrate its point. In the past four years, Douglas has twice split its stock 2-for-1, each time during a

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People of Your Company

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period of high earnings. The first split came in May, 1951, just after the company had reported 1950 per-share earnings of \$12.02 and dividends of \$6.25 on the old basis. The second split was announced last May, just before Douglas reported that in its fiscal first half the earnings on the once-split shares had been \$15.68, a rise of 82% in a year.

The point is this: If Douglas had not split its stock on these two occasions last year it would have earned \$60 a share and paid \$26 of dividends, on the basis of the number of shares outstanding in 1950.

The cynics, examining these figures, find no surprise in the recent fact that a buying rush pushed Douglas prices up 55% in a month, after the company announced that it would seek stockholder approval in 1955 of still another split, this time 3-for-2.

At the same time, you don't want to forget that other side of the stock-split coin which too often the cynics prefer to ignore. For example:

If it had not been for the two splits in question there's no doubt but that ownership of Douglas stock would not be so widely diffused as it is today. Except for them the old shares outstanding in 1950 would recently have been selling at around the stratospheric level of \$564 each.

Also, how much interest would there be in say Sears, Roebuck shares currently if the management hadn't decided to split them 4-for-1 back in 1945? Without that operation the old shares would now be selling at around \$320, or well out of the reach of ordinary investors. And were it not for similar earlier splits, to give a few more examples, General Mills common would now be selling at \$213 each instead of \$71, General Electric at \$150 instead of \$50, Eastman Kodak at \$350 instead of \$70, and Inland Steel at \$219 instead of \$73.

• **Exchange Reaction**—Up to now the New York Stock Exchange—ever anxious to keep a bull market party from getting too rowdy—has made no comment on the uptrend in splits.

Back in 1946, though, the Big Board's then president, Emil Schram, decided things were getting too rough. He warned all listed corporations that the exchange would consider splits to be legitimate only if they fulfilled definite conditions. The stock must have been selling at high prices for a long time, and have a consistent record of earnings.

The exchange, Schram added, would frown on any split by a company with a feast-or-famine record, or whose shares were close to penny arcade prices.

Of course, Schram is no longer head of the exchange. But it's a 1,000-to-1 shot that his sentiments still prevail at the corner of Broad and Wall.

Pennsy Next?

Wall Street hears a fight may be shaping up for the big road's annual meeting in May.

A scrap for control of the giant Pennsylvania RR may be shaping up, Wall Street hears. Word is going around that several investment groups, disappointed with Pennsy payout since the war, may demand a voice in the management at the annual meeting in Philadelphia on May 10.

Pennsy headquarters stays calm. Management spokesmen discount reports of dissident stockholders. They say the Wall Street critics lack financial stature and investor appeal and can't put up a serious challenge at the May meeting.

Some Wall Streeters feel differently about it. Among them are Thomas G. Campbell, rail security analyst, and Randolph Phillips, said to have been the first expert consulted by Robert R. Young in the proxy fight for control of the New York Central last year (BW—Jun. 19'54, p. 32).

• **Challenge**—Phillips hasn't tipped his hand, but Campbell is said to be confident of lining up substantial proxy support in the Street, without having to solicit generally among stockholders elsewhere.

According to some observers, Campbell could have as many as 2.5-million of the Pennsy's 13.2-million shares safely in his pocket. Investment men in brokerage houses would like to see Pennsy earnings and dividends pepped up, and as many as 400,000 Pennsy shares are listed in some brokers' names. These would give Campbell the nucleus of Wall Street support.

However, other observers regard a figure of 2.5-million shares in the Campbell camp as fantastically high. They say owners of this number of shares may be disappointed in the Pennsy's performance, but that doesn't necessarily mean they'll support Campbell. Indeed, many doubt that if the Pennsy meeting was held today Campbell would be able to muster proxies for more than 20,000 shares.

As one investment man said: "To win control of a road as big as the Pennsy, you need \$2-million and a glamor boy like Bob Young or Louis Wolfson. Campbell has neither the \$2-million nor the glamor boy."

• **Performance**—Campbell hasn't yet unfolded his plans for storming the Pennsy meeting, but he has much to say about the road's performance.

Last year, says Campbell, \$10-million of the road's net income of \$18.6-million came from the Pennsylvania Co.

NEW!

ARMCO ALUMINUM-COATED STEEL for outdoor service

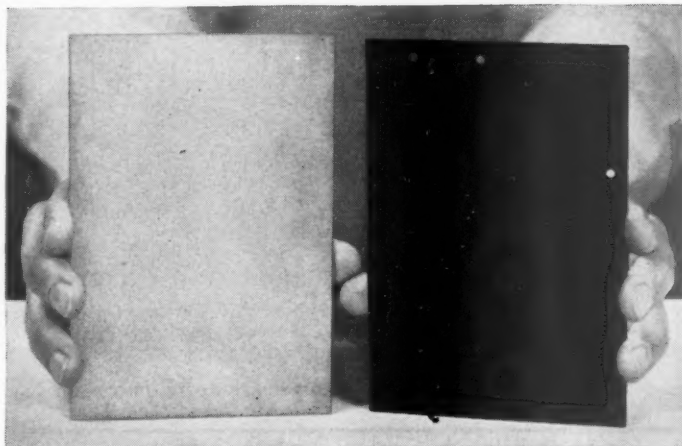
Combines Corrosion-Resisting Properties of Aluminum with Strength of Steel

A new hot-dip aluminum-coated sheet steel—known as Armco ALUMINIZED STEEL® (Type 2)—is now in production after 15 years of corrosion testing. It combines the surface advantages of aluminum with the strength of steel.

While zinc coatings have done a good job of protecting steel against rust, tests indicate this new aluminum-coated steel is greatly superior. The 15-year tests in an industrial area show the atmospheric corrosion resistance of this aluminum coating is at least 3 times that of a standard coating on galvanized steel sheets.

During the past year and a half of field development work, ALUMINIZED STEEL (Type 2) has been used in prefabricated industrial, commercial and farm buildings, industrial rolling doors, covers for silos and water storage tanks, roof deck, and other applications under general atmospheric conditions.

The new sheet is a companion grade to Armco ALUMINIZED STEEL (Type 1) exclusively produced by Armco since 1939 for high temperature service.



In atmosphere sufficiently corrosive to cause a standard galvanized coating (right) to fail completely in 12 years, Armco ALUMINIZED STEEL (Type 2), left, looked like this after 15 years. Cleaned samples show the aluminum coating is still giving full protection to the base metal.

QUESTIONS YOU MAY WANT ANSWERED

DOES IT "WEATHER" LIKE ALUMINUM?

Yes. The surface of samples of Armco ALUMINIZED STEEL (Type 2) and aluminum, exposed to the atmosphere for five years, cannot be told apart.

WHAT IS ITS STRENGTH?

Because it has a steel base it has the strength and rigidity of steel . . . thus avoiding problems common to weaker materials.

DOES IT REFLECT HEAT?

Yes, ALUMINIZED STEEL (Type 2) offers the same high reflectivity of radiant heat as aluminum—whether from the sun or from low temperature heat sources.

DOES IT RESIST FIRE DAMAGE?

Armco ALUMINIZED STEEL has excellent resistance to fire damage. At 800 F, for example, it has more than ten times the strength of aluminum. Steel has a melting point of 2850 F; aluminum melts at about 1200 F.

WHAT ABOUT FABRICATION?

Armco ALUMINIZED STEEL (Type 2) withstands severe forming without peeling or flaking of the coating. It also can be embossed and spun, but is not recommended for drawing operations.

HOW DOES IT COMPARE IN COST?

Even when considering equal thicknesses, ALUMINIZED STEEL (Type 2) generally costs less per square foot than aluminum. Additional cost savings are possible because the greater strength of the steel base permits use of lighter gages. For example, a fabricator using .050 aluminum could save 40 to 50 per cent of material costs by utilizing the proper gage of ALUMINIZED STEEL.

While the initial cost is somewhat higher than galvanized steel, it is less than the cost of galvanized plus one field coat of paint. Because of its superior atmospheric corrosion resistance, the new aluminum-coated steel needs no paint protection.

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one of the line's holding companies. Thus, the earnings of railway operations were only \$8.6-million, which amounts to less than one-third of a cent for each \$1 of property investment.

Campbell says a railroad should do better than that, especially when it serves a region with half the nation's population.

Officials of the road say, however, that 1954 was a poor year (net was \$38.9-million the year before) because of the general business recession that cut into hauling of steel, iron ore, and coal. These items make up 30% of the Pennsy's normal freight traffic. Pres. James Symes said last week: "Barring unforeseen conditions, such as strikes, we expect to substantially improve our net income."

• **Dividends**—Campbell says the Pennsy stockholder has suffered. In the past 60 years, dividends paid out by the road have averaged \$21-million a year. However, in 1905-14, they averaged \$24-million a year, and in the past 10 years they have averaged only \$14-million annually.

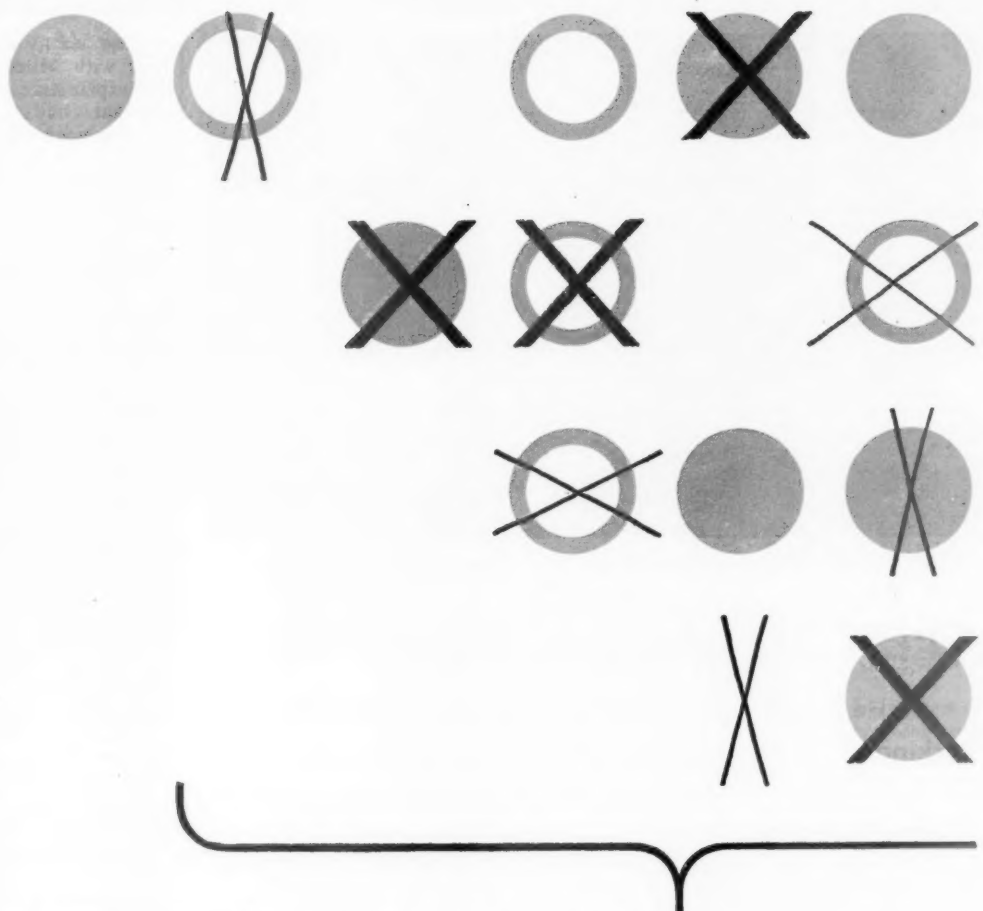
Campbell says if he had a voice in the road's management, he would try for greater operating efficiency and would recommend that common shares of the Pennsylvania Co., the holding company, be split 5-for-1 and distributed, share for share, to holders of Pennsylvania RR stock.

FINANCE BRIEFS

The 10% New Haven stock dividend that Pres. Patrick B. McGinnis has indicated he will recommend (BW-Jan.29'55,p62) looks illegal to some Boston lawyers. They argue that Massachusetts law expressly forbids public service corporations operating in the state to issue stock dividends. But other lawyers say the law does not apply to companies under Interstate Commerce Commission jurisdiction.

• New stock offerings to shareholders are planned by New England Telephone & Telegraph Co. and Maryland Casualty Co. NET&T, 69% of whose stock belongs to Mother Bell, will offer 511,205 shares, valued at \$51.1-million, on the basis of one share for each five now held. Maryland Casualty will offer 296,050 common shares, worth \$11.8-million, on a 1-for-6 basis.

• Pittsburgh Steel Co. last week deferred action on a common dividend. For some time the company has paid stock dividends on the common, on a 2% quarterly basis. Common stock earnings were only 62¢ a share last year, compared with \$2.61 in 1953.



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GEORGE MEANY'S skirmishes with the Labor Secretary reach a climax as . . .

AFL Chief Assails Mitchell

He accuses the GOP Cabinet member of laxity in cracking down on wage violations on government construction projects. It could affect Administration labor policies.

AFL Pres. George Meany's growing disenchantment with Labor Secy. James P. Mitchell reached a climax last week—and the effects may change the course of the Eisenhower Administration's dealings with organized labor.

Meany, detailing the results of an AFL executive council conclave in Miami, lashed out at Mitchell's handling of a federal construction wage law. In doing so, he threatened what are probably the Labor Secretary's closest union ties—the Federation and its leading personalities.

That was the immediate result. However, the friction threatens to carry over to Mitchell's influence within the Administration. It's no secret that Mitchell's programs are considered too pro-union for more conservative Administration members and particularly his fellow Cabinet officer, Commerce Secy. Sinclair Weeks.

Labor Dept. officials are somewhat taken aback by the charges, particularly since Mitchell months ago made a point on his record on the construction wage issue. The AFL complaints were echoed by AFL Building Trades Pres. Richard J. Gray, a long-time active Republican.

• **Climax**—However, the department couldn't have been too surprised that Mitchell was Meany's target. Meany's criticism is the culmination of a series that:

- Started last September, when Mitchell appeared at the AFL convention. Mitchell used the occasion to criticize the union for what he labeled intemperate attacks on the Administration, designed for political purposes rather than as a true estimate of its labor record. Meany took offense at this with a remark about a guest's bad manners.

- Resumed two days before the 1954 elections, after Mitchell made an admittedly political speech on the testy subject of unemployment. This invoked Meany's charge that Mitchell was "prostituting" his office.

- Reached a climax when Meany cited Mitchell as the instigator of gimmicks to keep union wages depressed on government construction projects.

- **Attack**—Specifically, Meany attacked Mitchell for maladministration of the Davis-Bacon Law that gives the Labor Secretary authority to set prevailing minimum wages for workers on government construction projects of over \$2,000. Meany accused Mitchell of laxity in cracking down on violators and of refusing to seek changes in the law to make it more effective.

The split is more notable because of the former close ties between the Building Trades Dept. and the Labor Dept., culminating in the hiring of Gray's son, Cornelius, to handle Davis-Bacon enforcement rules. Gray resigned recently

in what Meany describes as disillusionment with Mitchell's operations. The only explanation ever tendered Mitchell was that Gray's son left to take some of the work off his father in the Building Trades Dept.

The Labor Secretary is authorized to make such investigations as he deems necessary to insure compliance with, and enforcement of, the standards set under the Davis-Bacon Act. If complaints are found to be valid, the Secretary must ask the contracting agencies of the government to see that the terms of the act are observed.

Meany, and AFL building-trades unions, want Mitchell to initiate prosecutions for violations; they complain that he has refused to support legislation that would authorize him to do this.

It would require an amendment to the law to get Mitchell the authority to do the cracking down—to the extent that Meany wants Mitchell to crack down. According to Mitchell, the building trades have never asked him to sponsor such a revision of the statute. They are afraid that once the law is opened for amendments, contractors will press successfully for a new provision requiring court review of Davis-Bacon penalties. This—as happens now under the Walsh-Healy Act—could delay enforcement.

- **Defense**—Mitchell promptly countered Meany's charge with his own record showing that 20 contractors have been barred from government work for violations. He pointed out that total blacklistings far exceed the enforcement results of the last 20 years of Democratic Administration.

Mitchell says that he is riding herd on government agencies, which must initiate violation charges. Mitchell has called in the Defense Dept., Federal Housing Administration, and other agency officials for pep talks on the subject. AFL construction officials concede that his record outdoes former Democratic Labor secretaries.

- **Theories**—Thus, the question arises as to why Meany singles out Mitchell for his attack.

One theory is that Meany deliberately wants to destroy Mitchell's effectiveness; that he is afraid that the Labor Secretary may move the Eisenhower Administration into a quasi-liberal position on union issues; that, if this develops, it will be hard to represent Republicans as union-busting villains; and that the consequence will be a less effective and monolithic bloc of labor voters rallied by AFL's political action arm.

Another theory is that Meany's attachment to former Labor Secy. Martin Durkin—who, like Meany himself, comes out of the plumbers' union—is

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so protective that he is galled by any success of Durkin's successor.

Most people believe, however, that Meany simply does not like Mitchell, that he honestly thinks of him as an innocent front for Republican reactionaries and thus—insofar as anybody is fooled by him—a sower of confusion in labor's ranks.

•Endorsement—This is in contrast to the attitude of CIO officials who privately assess Mitchell as an excellent Labor Secretary, with the qualification that he serve in a Republican Administration.

CIO's political statements have long since excepted Mitchell in attacks on the Administration. But Meany has pinpointed Mitchell as the target, in part because he is Eisenhower's No. 1 labor official; but his remarks also seem to reflect a personal attitude.

Mitchell discounts any private animosity toward Meany, and claims that he still has the confidence of most building trades officials with whom he has long been on a first-name relationship. But, if it's more than just a political division, it will show up to the probable dissatisfaction of both parties.

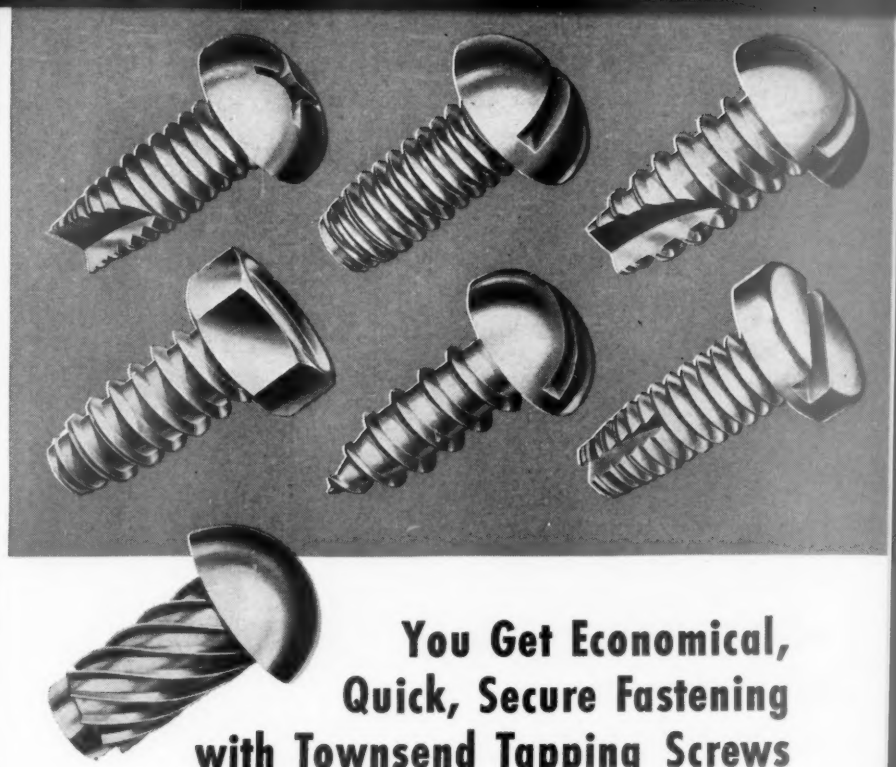
Organized labor, through the AFL, CIO, and other unions, is on a working day-by-day relationship with the Labor Dept. Many programs require joint efforts, through promulgation of labor laws to cooperation on safety drives, apprenticeship training, and so on.

In any case, there'll be an opportunity of peacemaking. One day after Meany's latest blast at the Labor Secretary, he announced that he and two other AFL officials would serve with other union leaders on Mitchell's Labor Advisory Committee.

Milestones in 1954

From an address by Sumner H. Slichter, Lamont Professor at Harvard University, to the National Academy of Arbitrators in Boston:

"The year 1954 saw important developments in the field of industrial jurisprudence. A New York arbitrator held that it is not permissible to fire a waiter because he is writing a book about the customers and the owner of the restaurant. The New Jersey Supreme Court held that a bartender, hit by flying beer steins, may collect workmen's compensation. An Australian tribunal held that compensation was proper in the case of a dislocated jaw suffered while yawning at work. There were also important new laws and administrative orders. Boxers appearing in professional bouts in Indiana were required to take non-Communist oaths. The town of Waterloo, Neb., forbade barbers to eat onions between 7 a.m. and 7 p.m."



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ANOTHER SCHOOL INSTALLATION in Trumbull Elementary School, Trumbull, Connecticut, uses 14,000 sq. ft. Architect: Lyons & Mather, Bridgeport, Connecticut. Contractor: E. R. Smith, Inc., Stratford, Conn.

"Split" in ILWU

Big Hawaiian local amicably quits Bridges union, to protect its cash from judgment over strike.

Locals of the International Longshoremen's & Warehousemen's Union in Hawaii have withdrawn lock, stock, and barrel from the leftwing international headed by Harry Bridges. But the withdrawal was friendly, and leaves the two groups on the best of terms.

On Jan. 31, the big Local 142 in Hawaii decided to withdraw "forthwith" from ILWU, and to stop sending dues payments to the Mainland. The international lost 23,000 members through the breakaway, between a third and a fourth of its entire membership, but ILWU did not oppose the withdrawal.

• **Money Reasons**—Local 142's purpose is to avoid liability for ILWU debts—particularly, for a \$1-million judgment won by the Juneau Spruce Co. in a suit based on an ILWU strike in Alaska in 1949.

ILWU's unique financial policy is at the root of this complex situation.

• **No Treasury**—Under Bridges, the ILWU has never had a treasury (BW-Feb. 6 '54, p113). It maintains no reserves.

Instead, the international's policy, explained by Bridges, is "to leave the money in the hands of the membership." He added, "All the big locals have more money than the international."

This policy came in handy when courts handed down a number of judgments against ILWU—including that of Juneau Spruce. Bridges smiled and commented in 1954: "They got the judgments; let them collect."

Juneau Spruce began seeking union funds wherever ILWU operated. When it found a sizable treasury at Local 142, it moved to tap it for payments.

• **Reaction**—Local 142, which has the bulk of ILWU's members in Hawaii in its sprawling membership, reacted quickly. It wasn't the money involved, it said, but the principle. If its funds are to be subject to seizure to pay international ILWU's debts, as a result of its "voluntary association with the international," then the "association" must end, it announced.

What about the future? Local 142 said, significantly, that it will continue operating as the International Longshoremen's & Warehousemen's Union, because its contracts are signed that way, and will "continue to follow and uphold the democratic policies" of ILWU.



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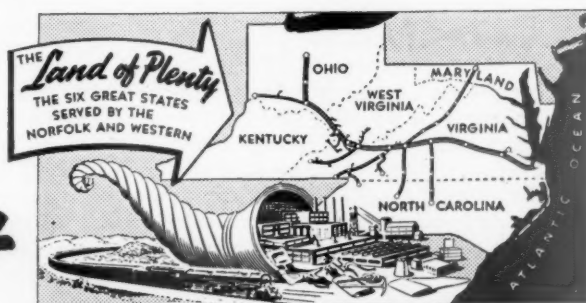
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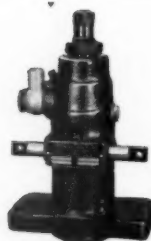




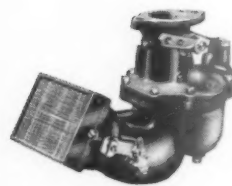
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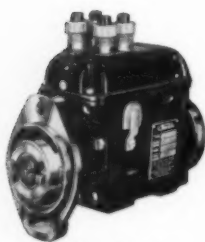
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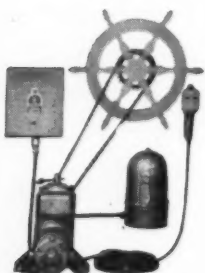
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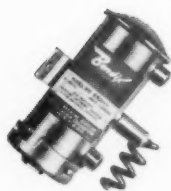
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GAW and the Jobless Pay Law

Auto union thinks management may yield if state unemployment funds bear part of cost.

When the United Auto Workers (CIO) first seriously proposed the guaranteed annual wage, it made clear that such a plan should be dovetailed into state unemployment-compensation laws. Both state funds and companies should share the costs of joblessness, UAW said.

The auto union has a strategic reason for this position. Selling management on a guaranteed-wage clause in 1955 will be, at least, difficult. The union believes that if management didn't bear the whole cost of a laid-off worker's guaranteed pay—if unemployment compensation would count as a large part of it—this might help get the GAW into contracts.

And even if it doesn't, a big GAW push will almost surely get employers more interested in "liberalizing" U. C. laws as one of the answers in the future to contract guarantees.

The integration of GAW and jobless-pay benefits entails a host of problems. Under many existing state laws, it can't be done now. For that reason, state employment security acts are currently under close scrutiny by labor specialists on the GAW. They want to know, before bargaining gets under way in the spring (BW—Jan. 22 '55, p128), just where legal problems might be involved, and what they are likely to be.

- **Michigan, First**—As far as UAW is concerned, the Michigan law is obviously the most important one, because of the heavy concentration of auto production in the Detroit and Flint areas. When GAW talks begin, the union—and to a large extent management—will be chiefly concerned with the way an annual-wage plan might be tied in with the Michigan Employment Security Act.

Two questions, particularly, are involved:

- **What effect would company payments to a laid-off worker under GAW have on unemployment-compensation benefits due him?**

- **Would a laid-off worker receiving GAW payments be considered "available for suitable work," as required to be eligible for unemployment pay?**

- **Revision**—State laws—including the one in Michigan—furnish no specific answers. The problems must be settled largely through revisions of present laws or through clarifying decisions in cases bearing on GAW. But UAW's study of the Michigan law has brought

out some points sure to be put before General Motors and Ford Motor Co. in the months ahead.

The Michigan law does not specifically include guaranteed-wage payments under its definition of "remuneration"—the payments to an employee discharged or laid-off that make him ineligible for unemployment pay. It says, moreover, that payments "in the form of termination, separation, severance or dismissal allowances and bonuses" shall not be deemed wages or remuneration under the terms of the act.

UAW sees an opening in this for construing GAW payments as not being remuneration, in the spirit of the law. It hopes the law will be amended to add GAW payments to those the laid-off worker can receive without losing unemployment-pay eligibility.

The union wants employers to join it in seeking such an amendment. It warns that otherwise employers who negotiate a GAW plan might have to pay the entire amount—not just the difference between state jobless-pay and the contractual guarantee.

According to UAW, "Integration is definitely possible under the laws of some states and in most of the others there is a strong probability that integration can be achieved without amend-

ing the laws. In most cases, all that is needed is a favorable administrative ruling or interpretation of the law."

- **Availability**—UAW officials believe that essentially the same reasoning applies to the second question of a GAW: covered worker's availability for work. In Michigan, the law says that to be eligible for jobless-pay a worker must be "available and able to perform full-time work of a character which he is qualified to perform by past experience or training."

The auto union agrees that laid-off workers should be available for "suitable" work. But it wants the definition of "suitable" to be spelled out in the GAW plan instead of by state law; if a job is "suitable" under state law but "unsuitable" under the GAW plan, UAW wants the worker to be able to refuse it without jeopardizing his jobless-pay benefits.

Again, UAW hopes for management support. If an employee refuses what he—and the union—consider "unsuitable" employment during a layoff, his employer would have to pay the full amount of the GAW.

UAW still hasn't fully outlined the details of its GAW proposal. It has indicated that it will not insist on union determination of just what "suitable" employment should be. Under one plan being discussed in UAW headquarters, the determination would be controlled by a joint board of administration.

NMU, Rail Shop Groups Join Drive

Unions in two more industries entered the race for a guaranteed annual wage plan last week:

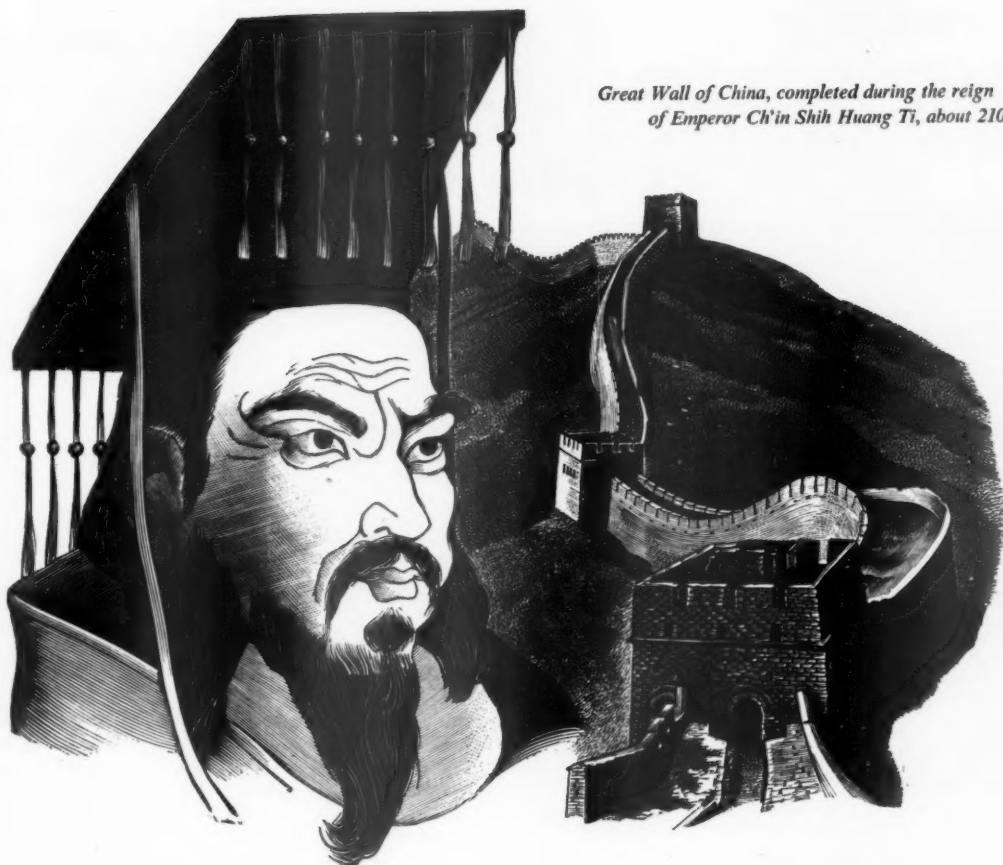
- **The National Maritime Union (CIO)** announced in New York that it will demand a "guaranteed annual employment insurance" program when it opens negotiations with Atlantic steamship companies shortly. NMU agrees that "conditions of the shipping industry . . . make it difficult to plan an annual wage."

NMU proposes an employer-financed fund out of which unemployed "regular" seamen would be paid \$40 a week, or—for those eligible for jobless-pay benefits under state laws—the difference between jobless pay and \$40. The union suggests that employers pay \$1 a day for each employed seaman into the guaranteed fund.

- **Six unions** representing 350,000 railroad shop workers decided in Miami Beach to make GAW their "main objective" in contract bargaining this year. The unions, comprising AFL's

Railway Employees Dept., haven't worked out a definite GAW proposal yet, and say they are not "overly optimistic that we can win [one] without trouble." But the unions say a "job budget" plan in effect in Seaboard Air Line RR shops since 1929 (BW—Jan. 3 '48, p58) shows "what can be done" to stabilize jobs by spreading maintenance work out on a year-round basis.

- **Teamsters, Too**—Meanwhile, the Brotherhood of Teamsters (AFL) indicated in Miami Beach that it will seek a further extension of the type of guaranteed-pay plans negotiated in a number of recent large contracts (BW—Jan. 29 '55, p128; Jan. 22 '55, p36). These provide that drivers are guaranteed a specified wage—in the case of Midwestern long-haul drivers \$75—for any week they work; if necessary, under terms of the contract, employers may lay off low-seniority teamsters to provide work enough to bring pay of the covered senior drivers up to the guaranteed amount.



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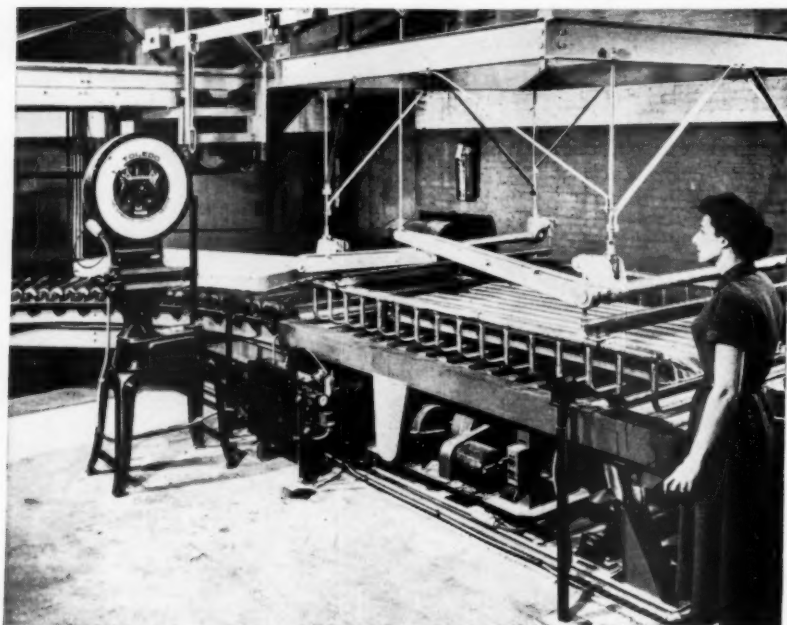
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Reds Cornered

Left-wing unions get one-two punches from government and national labor leaders. They may fold.

Skidding left-wing unions last week got a final shove from the government and from rival labor unions.

The week's events may have ended the last chance for survival of the once-influential organizations—now mere shadows of the 11 unions with 800,000 members that were expelled from the CIO five years ago. There will be further maneuvers, legal and otherwise, but here are the omens of the unions' fate:

- The AFL virtually closed the door in the face of three of the largest unions—the Fur & Leather Workers, the United Electrical Workers, and the Mine, Mill & Smelter Workers—who were seeking to affiliate with the Federation and share its anti-Communist reputation.

- The CIO promised a haven for dissident right-wing locals of the Fur & Leather Workers and set up a special organizing committee to hasten the split that has already brought 10,000 leather workers back under its leadership.

- The National Labor Relations Board took away Taft-Hartley Act privileges from the Mine, Mill & Smelter Workers, ruling that the union could no longer appear on a representation ballot or file unfair-labor-practice charges against an employer.

- Fur, Leather—The Fur & Leather Workers were the immediate victim of the AFL executive council decision not to admit Communist-dominated unions. With AFL Pres. George Meany leading the way, the council warned there is no opening for them, even through affiliation with an AFL union, unless Communist influence is wiped out first.

The 70,000-member fur workers' union is in the process of merging with the AFL's Meat Cutters & Butcher Workmen. Meat Cutter officials, promising a cleanup of the fur union's leaders, are going ahead with the merger.

However, Meany warns that this may result in expulsion of the 280,000-member union, which ranks among the Federation's top 10. This willingness even to lose the big union indicates the firmness of the Federation's anti-Communist position.

- Anti-Red Law—Meany also disclosed that MMSW and the independent United Electrical Workers had made overtures for admittance to the Federation. The intent is obviously to

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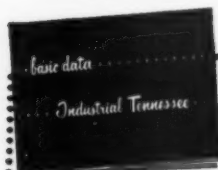
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This act provides the government with authority to seek disbandment of Communist-dominated unions. At the same time, it contains a provision that

says, in effect, that unions affiliated with the AFL and CIO shall be considered, on the face, as anti-Communist.

If the left-wing unions could gain entry, they would thus be under the protective cloak of the law.

CIO Blitzkrieg Peters Out

Pinpointing tactics for organizing retail and service employees flop—after a 14-month test run at Port Arthur, Tex. Strikes against most firms end with new union gains.

Fourteen months ago, the former Distributive, Processing & Office Workers Union (CIO) called a citywide strike in Port Arthur, Tex. The union was staging a "saturation" drive to unionize all store clerks and hotel, restaurant, and service employees. Employers mobilized against DPOWU's organizing blitzkrieg, using as a weapon the one-time leftwing orientation of DPOWU.

Last week, the long, hard strike seemed about to peter out. Six restaurants reached an agreement with Industrial Union 1814 (CIO)—successor to DPOWU in the union drive—and picketing stopped. A short time before, eight retailers and Local 1814 had reached strike-ending terms. Only four establishments were still struck.

• **Major Setback**—When the strike started in mid-November, 1953, it was described as the test for new retail-organizing tactics in CIO—a resumption of the pinpointing, saturation strategy of organizing that harked back to the early days of CIO (BW—Jan. 2'54, p64).

If CIO had any real hopes for success in Port Arthur, it was in for disappointments. Port Arthur is a strong union town, because of the solid CIO organization of its big oil refineries. Despite that, the citywide strike that involved at the start 350 employees of 48 business establishments got nowhere. Instead of a precedent-setting victory, the strike is winding up as a major setback for CIO. Here's why:

• **DPOWU** was forced to withdraw from the organizing drive early in 1954 as criticism of its leftwing background made its position in the Deep South city of Port Arthur untenable. CIO threw its full support and financial backing to a new industrial union (directly affiliated with CIO, not with any international union)—but this new group, Local 1814, hasn't got very far with Port Arthur merchants. It has negotiated settlements, but has won neither recognition nor contracts.

• **Where National Labor Relations Board elections have been held, CIO ran into tactical reverses.** Covering five stores, the polls were limited to working employees—"strikebreakers," CIO

charged. Striking employees couldn't vote. Although Local 1814 tried to avoid elections sought originally by DPOWU, at management insistence NLRB went through with the voting. The five-store tally: CIO 0, no-union 63. CIO has done nothing further about representation elections.

• In recent settlements, employers merely agreed that if and when the union proves majority status, it will be recognized. The employers do not have to reemploy strikers whose jobs were filled during the long walkout; they agreed, however, that strikers will not be discriminated against when new employees are hired.

• Although CIO's organizing director, John Riffe, promised the 1954 Texas CIO convention that the Port Arthur strike would be continued to victory, and would be supported by strikes against associated employers in nearby Beaumont, the locally negotiated settlements began evolving soon afterward.

• Last weekend, CIO pickets were still parading before a laundry, two hotels, and a hardware store, the four last employers in the strike, and—in a secondary dispute, before two women's apparel shops, both chain outlets. Neither side would admit that negotiations were going on; but a cryptic "no comment" indicated efforts might be afoot.

• **Effects**—At the start of its Port Arthur blitzkrieg, CIO appeared confident that the impact of a citywide strike on business would give the union a quick victory. Union members in the refineries (altogether, they make up about half the city's labor force) were asked not to trade with picketed stores or with establishments associated with the Port Arthur Chamber of Commerce or the city's Retail Merchants' Assn. Both organizations actively opposed the CIO organizing drive and strike.

At first, many unionists drove 20 miles to Beaumont to do their shopping. But year-end figures, just out, show Port Arthur's total business in 1954 was second only to record-breaking 1953, while banks reported an all-time level of business last year.

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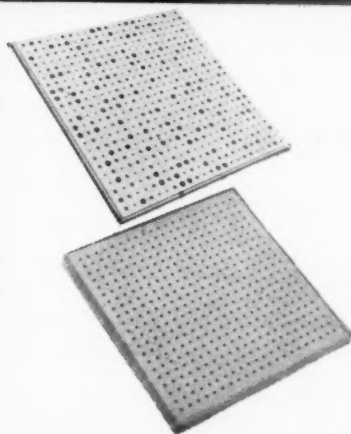
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LABOR BRIEFS



Newell Brown (picture), director of the New Hampshire Division of Employment Security, succeeds **William R. McComb** as administrator of the Wage & Hour Division of the U.S. Dept. of Labor, in charge of the administration of the Fair Labor Standards Act. McComb resigned last week.

No pay demand will be made this year by 13 major AFL building-trades unions in Chicago, their officers have assured contractors. Union spokesmen decided "it's best to hold the line" in 1955, even though construction is at a high level. The unions, representing 102,000 craftsmen, have had boosts for 12 consecutive years, ranging from 5¢ to 20¢ an hour.

Investments from welfare funds administered by the International Ladies' Garment Workers' Union (AFL) have been limited in the past to government bonds, which pay 2½% or less. Last week, ILGWU joined other unions in seeking ways of getting a larger return. Its executive board O.K.'d investments in (1) 4½% bonds issued by ILGWU's cooperative housing project; (2) 3½% shares in savings and loan associations; and (3) government-insured mortgages. In each case, the amount of the investment will be limited.

David McDonald, president of the United Steelworkers (CIO), reportedly has been given a free hand by his board in selecting a successor to **James Thimmes**, USW vice-president who died Jan. 16. There are a number of strong aspirants for the post, one of three executive jobs in USW. But with the board solidly behind McDonald, no open fight is expected. ... McDonald last week was named a CIO vice-president, succeeding Thimmes. McDonald's nominee for the CIO post in 1954.

The hammer with the golf club feel

THERE's a new kind of hammer on the market with a handle that was copied after a golf club shaft. It won't make a week-end golfer want to stay home and drive nails. But it actually has a golf club feel.

The idea was to create a handle that wouldn't break and that wouldn't transmit shock. It had to be stronger than wood, more flexible than solid steel. What could they use? The engineers at True Temper had an idea. Why not try the same tubing for the handle of this hammer that had helped revolutionize the design of golf club

shafts—a certain analysis of Timken® steel?

So the first hammer with a hollow steel handle was made. Its tubular steel design "dampens" shock, gives the hammer perfect balance. But how well does it stand up? To find out, they first propped the handle against a curb and rolled a multiple-ton truck on it. The truck rested on the handle, without giving it a permanent bend! Then came the destruction test. The claws were anchored and increasing pressure was put on the handle until something gave. It was the forged steel head

that broke—not the handle! With a handle like that, no wonder the manufacturer can guarantee the hammer indestructible for all normal use.

Here was a hammer handle that was stronger and tougher than any other ever made. Yet the Timken steel tubing is easy to draw and heat treat, and the manufacturer can make the handles to close tolerances with practically no rejects.

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PAGE 1

INTERNATIONAL OUTLOOK

BUSINESS WEEK
FEB. 12, 1955



Western capitals aren't rattled by this week's upheaval in Moscow (page 25) or by Foreign Minister Molotov's blistering attack on the West.

Washington sees both good and bad signs in the shakeup—indications of serious domestic troubles inside Russia as well as more international tension in the days ahead. But Pres. Eisenhower won't stop seeking a modus vivendi based on growing Western strength.

London is taking a wait-and-see attitude. But the official calm covers real fears that Moscow and Peking can use the Formosa situation to weaken U.S.-British unity.

Paris officials think the whole business is largely a domestic affair, that it won't produce any new pressures which could upset ratification of the Western European Union.

Bonn was relieved that Molotov didn't make a strong play for unification of Germany. Chancellor Adenauer expects that this week's events will help rather than hurt ratification.

Still, Western statesmen recognize a real element of danger in Moscow's new line-up. The new Soviet regime may be tempted to score a victory in foreign affairs just to prove its strength.

Formosa remains a tinder box. Berlin could become one any time the Kremlin wants to cause us trouble there.

There is French North Africa, too. Here the Communists are preparing to exploit the vacuum in French policy.

—•—

France, ever the sick man of Europe, has lapsed into another coma. The crisis following Mendes-France's ouster may be long and painful.

Mendes lost his job because he was the most effective premier since the war, and the most popular with the French people. The nation's political system couldn't stand that—Mendes antagonized too many politicians.

At midweek, Antoine Pinay's effort to form a government seemed doomed. Even if he or another succeeds, outsiders expect one of the feeblest postwar governments. Urgent issues—North Africa, ratification of the Paris pacts on German rearmament, economic policy—may get bogged down.

The situation in North Africa, especially, is worsening. Communist influence among the nationalists there will grow.

—•—

Mendes-France now has the opportunity to become even more popular with the nation. His opposition to any government will be formidable. He could build a powerful new political organization before the general elections, now 15 months off. France won't forget him.

Canada's largest uranium deal—and one of the largest in the world to date—seems to be going through (BW—Feb. 5 '55, p66). And with it comes the biggest single British investment in Canada since the war.

Rio Tinto Co. Ltd., along with a London syndicate that includes the Rothschilds, is taking \$25-million in debentures of Algom Uranium Mines, operating in Ontario's Blind River-Algoma area. Other financing, much of it involving Rio Tinto, may bring the total to \$57-million. This would give Britons control of Algom. Algom has nailed down a provisional \$206-million uranium supply contract with the Canadian government.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

FEB. 12, 1955

Watch Rio Tinto for more big deals. An old-line British mining company, it pulled out of its famous Spanish mines last year, retaining only a minority interest. Since then it has been prospecting the world for likely investments. Several are expected to ripen soon.

Colin Clark, the noted Oxford economist, is prophesying doom once again. The bustling British economy, he believes, is heading into trouble.

It was Clark, remember, who predicted that last year's U. S. downturn would develop into a deflationary rout.

Clark foresees a severe labor shortage in Britain "almost immediately." This will put a ceiling on production. "With the terms of trade moving against us," he warns, "we will require bigger exports merely to maintain the present volume of imports, and we will probably be unable to supply them."

The problem is widely recognized by British experts. They hope, however, that the balance can be held by (1) modest curbs on home demand, (2) reduced defense spending, and (3) further increases in productivity.

Coffee prices hit a new low this week—and so did the 1955 outlook for Brazil's staggering economy.

A high-powered team of U. S. officials (assistant secretaries of State and the Treasury, a director of the Export-Import Bank) flew suddenly to Rio. There's the inevitable speculation about a new U. S. loan.

Brazil's dollar exports in January were much worse than was expected, way below the \$60-million monthly average that Finance Minister Gudin is counting on (BW—Jan. 22 '55, p. 108). Coffee just didn't sell at Brazil's minimum price. Now Rio has slashed the minimum—to the relief of U. S. observers.

If coffee prices stabilize, if Brazil's coffee sells, and if Rio can keep imports down, Gudin may squeak through. But it's a tall order.

The one strong spokesman for private enterprise in the Indian cabinet, Trade Minister Krishnamachari, has resigned. Prime Minister Nehru's acceptance of the Soviet steel mill proposal (page 188) was the last straw.

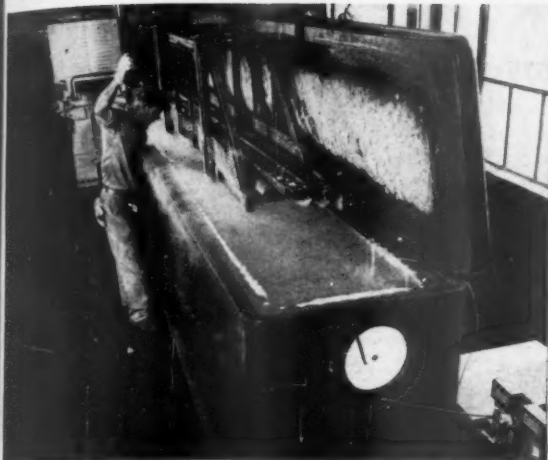
Businessman Krishnamachari warned that taking up the Russian project would undermine India's drive for private capital from the West. His resignation will carry businessmen's confidence in Indian investment to a new low.

The Germans came to Washington this week seeking return of the \$500-million in German assets seized during the war, including the \$100-million General Aniline & Film Corp. The Administration has a take-it-or-leave-it offer for them. And odds are it could pass through the Congress this session.

A draft bill, approved by the Cabinet, would pay individual German claims up to \$10,000 per claim, return most patents and copyrights to former owners, permit the sale—to American buyers—of GAF. Cost of the proposed restitution would be about \$50-million, to be met out of the proceeds from sale of remaining assets.

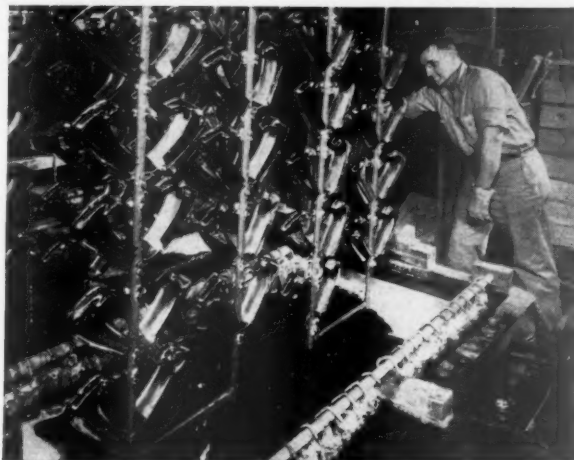
The Germans won't like the plan. They are insisting on total restitution in principle, control of GAF in practice.

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THE MARKETS

THE AIRCRAFT STOCKS:

First Victims of the Russian Shift

	Monday High	Tuesday Low	Tuesday Close	Drop from Monday High to:	Tuesday Low	Tuesday Close
Beech Aircraft.....	\$29.87*	\$27.00	\$28.00	— 9.6%	— 6.3%	
Bell Aircraft.....	36.00*	32.87	34.00	— 8.7	— 5.5	
Bellanca Aircraft.....	19.00*	15.75	15.87	— 17.1	— 16.4	
Bendix Aviation.....	112.25	109.00	109.50	— 2.9	— 2.5	
Boeing Airplane.....	80.75*	76.00	77.25	— 5.9	— 4.3	
Chance Vought Aircraft....	48.50	44.75	46.00	— 7.7	— 5.2	
Curtiss-Wright Corp.....	23.00*	20.37	21.12	— 11.4	— 8.2	
Douglas Aircraft.....	135.00	126.25	130.00	— 6.5	— 3.7	
Fairchild Engine & Airplane	21.75*	19.37	20.00	— 10.9	— 8.0	
General Dynamics.....	100.50	96.12	96.25	— 4.4	— 4.3	
Grumman Aircraft.....	44.87	40.62	42.00	— 9.5	— 6.4	
Lockheed Aircraft.....	64.25*	57.00	57.87	— 11.3	— 9.9	
Glenn L. Martin.....	43.87	39.00	40.37	— 11.1	— 8.0	
McDonnell Aircraft.....	40.87*	34.50	37.50	— 15.6	— 8.2	
North American Aviation..	61.12*	56.12	58.00	— 8.2	— 5.1	
Republic Aviation.....	44.25*	39.37	40.37	— 11.0	— 8.8	
Rohr Aircraft.....	33.62	30.62	31.37	— 8.9	— 6.7	
Ryan Aeronautical.....	43.50*	39.50	40.50	— 9.2	— 7.0	
Solar Aircraft.....	27.62*	23.75	24.75	— 14.0	— 10.4	
Sperry Corp.....	50.75	47.00	47.75	— 7.4	— 5.9	
United Aircraft.....	90.25	84.00	85.50	— 6.9	— 5.3	

* Bull Market Highs.

Bulls Get an Attack of Nerves

Is Wall Street going to rack itself with a new dose of war nerves? Tuesday's last-hour sell-off, centering on the aircrafts (table above), leads many Streeters to think so, and the thought doesn't make them happy.

Some bulls had long speculated that perhaps this "new look" bull market was better insulated against war scares than previous markets because it had struggled through Korea and an unending string of cold war crises. But Tuesday's reaction to the power shift in Moscow (page 25) and the early stages of the Tachen Islands evacuation smacked of old-time market nervousness.

• **Uncertainty**—You can find two main reasons underlying the price slide—and why it hit the aircrafts most heavily. One is uncertainty: Investors didn't know whether the Moscow move meant a tougher or easier policy toward the West. Of itself, this uncertainty would react against the strongest stock group in the recent market, the aircrafts. Rather than take a chance on getting caught with their paper profits down, many skittish traders sold off.

While most investors just didn't know how to interpret the news from Moscow, some took it to mean a step

closer to hot, all-out war. Molotov's violently anti-U.S. speech, and the recent switch in emphasis to Soviet heavy industry, were enough to convince them.

• **Aircraft Earnings**—The desire to pull out of aircrafts if hot war threatens is understandable. With aircrafts at historic peaks, Wall Street has had the feeling that all-out war would depress aircraft earnings. That's because (1) contracts would likely be renegotiated, with reduced profits; (2) the excess profits tax, which hit aircraft producers especially hard, would probably return; and (3) the companies would in any event be cautious about dividend payments.

• **Second Thoughts**—However, these factors wouldn't figure as prominently in a limited, Korea-type war—particularly in just a Formosa area flare-up. There's a feeling, too, that the Administration would be reluctant to reinstate the excess profits tax for anything short of wide-scale hostilities.

By Wednesday, investors had had time to digest the fall of Malenkov, and betting was for limited war, if any, and little change in Kremlin policy. The averages regained Tuesday's lost ground and added some for good measure.

• **Market Factors**—Other elements had a role in the market this week, too. Signs of speculation were plentiful, with brokers' loans, margin trading, and quick-profit-taking all in the picture. Profit-taking in the aircrafts, especially the low-priced issues, was the keystone of the sell-off.

The market's volatility is reflected in reactions to stock splits (page 130). When Western Union announced a 4-for-1 split after the stock had closed in New York at \$87.62 a share, it jumped on the West Coast (where trading continues later) to \$96.12 in San Francisco and \$96 in Los Angeles.

And as speculators muscle into the

market, there are signs that institutional investors are slowing up on new purchases of common stocks.

The speculation has shown up also in the reaction to tips, especially in low-priced shares. Last week, Standard & Poor's index of low-priced shares hit a bull market high.

Like the war situation, speculation worries a large segment of the market, which fears that credit conditions will be further tightened. The slim jump in margin requirements (BW—Jan. 8 '55, p27) obviously has had no direct effect on margin trading. And the Senate group "studying" the market will likely look into speculative activity.

Bethlehem Steel Tops 1954 Stock Gains

The five top performers for 1954 among the 30 common stocks that make up the Dow-Jones industrial average were Bethlehem Steel, Goodyear, U.S. Rubber, International Nickel, and United Aircraft.

Again a 44% rise for the year by the industrial average, a study by Keystone Co. of Boston showed that Bethlehem Steel climbed 118%, Goodyear 101%, U.S. Steel 86%, International Nickel 68%, and United Aircraft 67%.

United Aircraft is only one of the five that held a place in 1953's top quintet, and even United slipped from first place to fifth in teetering struggle that always goes on for the leading spots (table below).

Of the other 1953 leaders, General

Electric sagged from second place then to ninth last year; General Foods went from third clear down to 22nd; du Pont from fourth to 11th; and American Can from fifth to 28th.

By the same token, some 1954 leaders climbed from almost limbo the year before. Bethlehem Steel went from 22nd place to first; Goodyear from 14th to second; U.S. Steel from 19th to third; and International Nickel from 28th to fourth.

As for the preliminary showing in 1955, United Aircraft and General Electric were back in 1953 form, running one-two for the distance up to Feb. 7. Others up in the front ranks are Texas Co. in third place (up from 14th); U.S. Steel in fourth place; and Goodyear in fifth.

Common Stock	1947	1948	1949	1950	1951	1952	1953	1954	*1955
Allied Chemical.....	10	17	15	19	6	22	17	18	25
American Can.....	23	8	3	29	8	3	5	28	26
American Smelting.....	20	16	25	10	5	28	29	8	14
American Tel. & Tel.....	24	10	27	22	22	21	15	29	15
American Tobacco.....	26	25	9	30	27	18	18	30	13
Bethlehem Steel.....	6	19	26	3	20	13	22	1	10
Chrysler.....	1	29	6	23	24	1	30	24	18
Corn Products.....	25	21	8	25	23	24	7	27	9
E. I. du Pont.....	15	11	1	7	16	17	4	11	16
Eastman Kodak.....	18	13	21	20	25	25	8	13	22
General Electric.....	17	5	19	17	9	5	2	9	2
General Foods.....	27	3	11	26	26	8	3	22	17
General Motors.....	9	9	10	11	13	2	25	7	11
Goodyear Tire & Rubber.....	28	15	22	4	4	4	14	2	5
International Harvester.....	3	23	23	18	17	27	26	19	24
International Nickel.....	29	2	29	12	10	11	28	4	6
Johns-Manville.....	22	18	5	24	2	12	24	20	21
Loew's.....	30	30	12	27	15	29	12	6	30
National Distillers.....	21	27	7	15	7	30	27	21	29
National Steel.....	13	4	24	1	21	26	21	17	28
Procter & Gamble.....	7	20	2	13	30	23	11	16	27
Sears, Roebuck.....	19	7	17	16	19	14	10	23	12
Standard Oil (Cal.).....	8	6	28	5	14	9	23	15	8
Standard Oil (N. J.).....	5	22	30	6	1	20	20	12	7
Texas Co.....	14	26	16	8	3	19	13	14	3
Union Carbide & Carbon.....	12	1	18	14	12	10	9	26	23
United Aircraft.....	2	12	14	9	18	6	1	5	1
United States Steel.....	11	24	13	2	29	15	19	3	4
Westinghouse Electric.....	4	28	4	21	11	7	6	10	20
P. W. Woolworth.....	16	14	20	28	28	16	16	25	19

* Through Feb. 7th.

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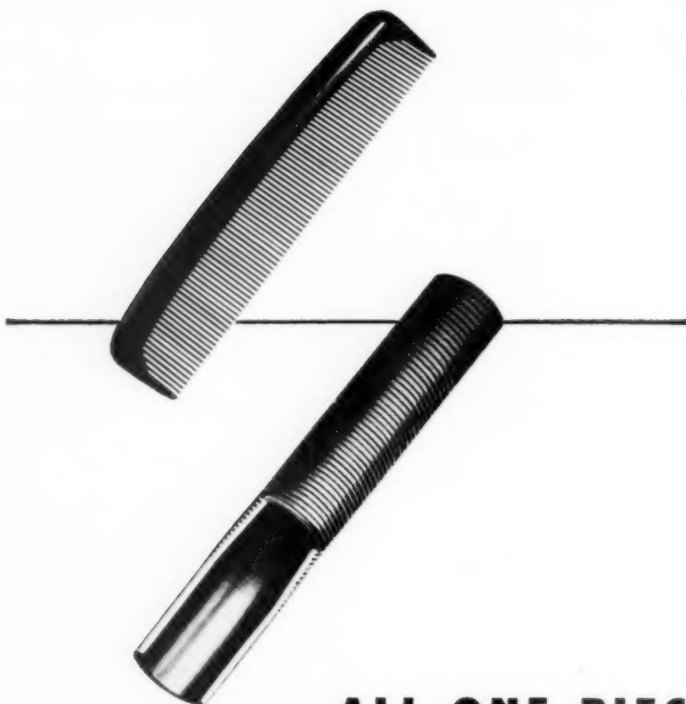
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Wall St. Talks ...

... about warning floor brokers on too much speculation ... the sudden rise of Bath Iron Works.

Floor brokers have been warned by the Big Board to cut down on the speculative activity. Among the exchange's 1,366 members, there are about 60 floor brokers who trade solely for their own account. Apparently many of them have been buying and selling heavily in the aircraft stock market, most of which have been popular lately. gyrations in Rohr Aircraft and Pratt & Whitney Engine & Airplane Co. were the specific cause of the warning.

A spectacular performer in the market is Bath Iron Works Corp., Maine's big builder of destroyers. In a single week, Bath stock went up 40%, from \$34 to \$47. Company officials offer no explanation for the spurt, but the stock idea is that rumors did it: (1) that General Dynamics Corp. is getting ready to buy Bath; (2) that Louis Wolfson of New York Shipbuilding Corp. has been buying Bath shares heavily; (3) that Bath itself is planning an atomic-powered warship.

Market letter gleanings (or what makes markets): "The market's good performance last week appears to be adequately backed by powerful forces in the form of investor-trader confidence and the sound business outlook" (Baker & Co.). ... Strength in the market last week depended primarily on speculative interest in the aircraft, on prospects (sometimes disappointed) of stock splits and on special situations involving mergers or contests for control. ... They provide no basis for expecting substantial strength at the present time but ... lead us to suspect that bullish forces are temporarily impaired or exhausted. ... (A. M. Kidder & Co.)

Dividend expectations appear extremely high these days. Take United Aircraft and Lockheed Aircraft companies, for example. Their dividends were sharply hiked last year—United from \$2.75 in 1953 to \$3.50 in 1954; Lockheed's from \$1.62 to \$2.85. Both dipped sharply Monday when Wall Street learned they had declared only regular quarterly dividends. United quickly nosedived \$4, or from \$90.25 to \$86.25, while Lockheed shot \$60 lower, or from \$64.25 down to \$57.25. Bethlehem Steel also recently showed a \$4 skid when word came out its upcoming quarterly dividend payment would remain unchanged.

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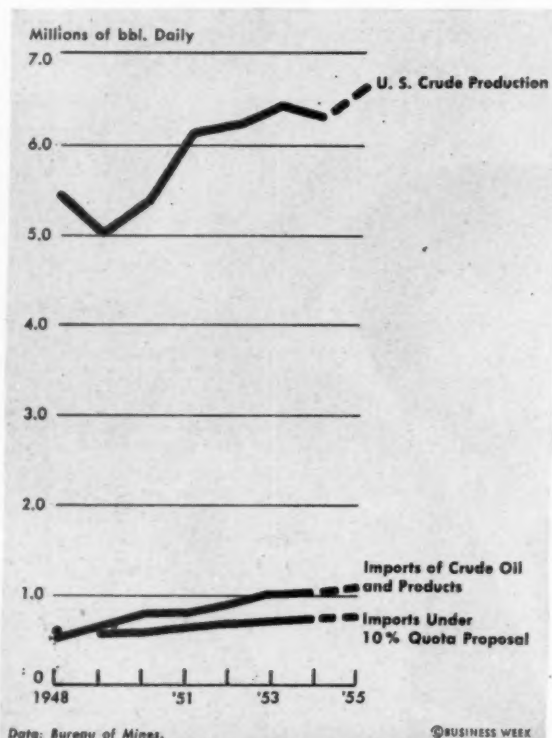
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BUSINESS ABROAD

How Much Foreign Oil?



OIL COMPANY PRODUCTION			
Company	1954	1953	% Change
Standard Oil Co. of Ind.	10,172	7,364	+32.8
Exxon	4,221	3,185	+31.1
Amoco	10,602	15,486	-31.5
Texaco	17,351	6,144	+182.7
Shell	6,710	7,207	-6.5
Marathon	6,218	9,448	-34.5
Sub-Total	63,343	58,095	+9.0
OIL COMPANY RESERVES			
Company	1954	1953	% Change
Standard Oil Co. of Ind.	175,038	171,092(a)	+2.3
Exxon	167,250	174,030	-3.9
Amoco	189,433(b)	174,030	+8.9
Texaco	553,000	181,242	+206.3
Shell	192,600	181,242	+6.3
Marathon	192,600	181,242	+6.3
Sub-Total	1,270,339	1,188,165	+6.9
OIL COMPANY INVESTMENTS			
Company	1954	1953	% Change
Standard Oil Co. of Ind.	38,100	27,540	+38.3
Exxon	115,407	90,872	+26.9
Amoco	49,809(a)	40,477	+23.1
Texaco	21,218(b)	17,497	+21.3
Shell	31,275	28,033	+11.6
Marathon	27,573(c)	24,724	+11.5
Sub-Total	275,377	247,143	+11.4
OIL COMPANY ASSETS			
Company	1954	1953	% Change
Standard Oil Co. of Ind.	40,475	38,088	+6.3
Exxon	45,134	43,013	+4.9
Amoco	10,608	10,211	+3.9
Texaco	124,626	119,981	+3.9
Shell	50,721	49,250	+3.0
Marathon	78,760	75,284	+4.6
Sub-Total	340,324	333,827	+1.9
Sub-Total	\$ 785	\$ 733.981	+7.1
Of Three Groups	\$2,146.189	\$2,146.189	0.0

Robert G. Dunlop, president of Sun Oil, is looking to cheap Middle East crude. To many U.S. producers, it's the last straw in the roaring battle over petroleum imports.

Another Oilman Goes East

Last week, Sun Oil Co. revealed that it had contracted to buy crude oil from British Petroleum Co. Ltd.'s Middle East fields—20,000 bbl. a day for one year. In the king-sized economics of the oil industry, the amount is a drop in the bucket; U.S. oil imports are now running at something over 14-million bbl. daily.

In the oil industry's hectic politics, however, the Sun deal is something else again.

Sun is just about the last East Coast refiner to buy Middle East crude. For years Sun has inveighed against foreign oil. Although it buys some Venezuelan oil, specialties mostly, it has never before turned to the huge reserves of cheap crude in the Middle East.

To Sun's Pres. Robert G. Dunlop (above), the Middle East deal is simply hardheaded business sense. At present domestic oil prices, Dunlop finds that there is "substantially" higher profit in processing Middle East oil. Sun in-

sists it takes the step reluctantly, but, with imports rising, allowable production in this country has been reduced. Each barrel lifted out of the ground becomes more costly. And Sun's profits suffer.

• **Last Straw**—What Dunlop and Sun would like is a free market in the U.S. oil trade—let production rise, prices drop, and then maybe imports wouldn't be so attractive. But in the meantime, Sun makes no bones about its determination to buy Middle East.

To many U.S. oil producers, worried about the rising import tide, Sun's Middle East deal with the British is the last straw. A showdown on national fuel policy, they insist, can't be postponed any longer.

• **Timely**—Politically speaking, Sun's venture into the Middle East couldn't have been more timely. The oil policy cauldron is bubbling fiercely in Washington. Domestic oil producers—and their coal industry allies—are trying

desperately to tie import restrictions on the Administration's trade act (page 164). Importers—led by the big international oil companies, with support from the freer traders—are just as intent on defeating the effort. The Administration is concerned with shepherding its foreign economic policy through Congress free of protectionist amendments and finding a graceful compromise on oil imports.

Compromise, so far, has proved elusive.

I. Oil from Abroad

The nation's oil imports dipped to less than 155,000 bbl. daily during the Depression. War sent them upward—by 1945 they were twice their prewar average. In 1950, postwar demand doubled the 1945 rate. The great bulk of imported oil was heavy fuel, from Venezuela. But the Middle East's crude began to find U.S. markets—from less

than 1% of our total imports in 1947 to 13% in 1950 (chart, page 160).

Meanwhile, U.S. oil exports declined steadily. The dollar shortage, the rush of other nations to build their own refining capacity, and soaring demand in the U.S. combined to shave sales abroad. In 1948, the U.S. became a net importer of oil. Many experts believe the U.S. will never again be a net exporter.

The years 1950 to 1954 took the oil market full circle—from surplus to shortage to surplus. In early 1950, the industry was troubled by excess supplies. With the Korean War, demand catapulted. Then, in 1951, Premier Mossadegh took the Iranian oil industry's 650,000 bbl. a day out of the world market.

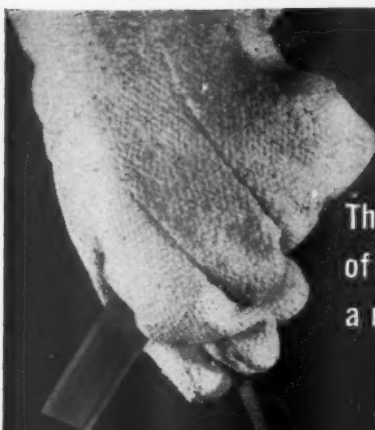
The entire free world buckled down to make up the deficit—and did, almost overnight. Reserves in the Middle East outside Iran jumped 88% in three years. U.S. production increased 20%, U.S. imports rose 26%. Middle East supplies then accounted for a quarter of the total.

• **Supply vs. Demand**—Over the past two years, production has steadily increased throughout the world, but demand hasn't quite kept up. Surpluses are back. So is Iranian production. Last year, domestic demand barely inched ahead—and domestic production was cut back approximately 2% while the rest of the world was producing more. But U.S. imports rose to a new high. So did the temperature of the oil import issue.

• **Pressure**—The Eisenhower Administration has been parrying efforts to tie stiff import curbs on oil since it took office. It is convinced that oil restrictions would unnecessarily disrupt world trade—and its own liberal foreign economic policies. Restrictions would endanger production abroad, might even jeopardize the huge (\$5-billion) U.S. investment in foreign oil. In war or peace, Administration officials, and especially military brass, believe the U.S. needs a balanced growth of imports to supplement home production and to conserve home reserves.

Nonetheless, the anti-import pressure has grown steadily. Last summer, the White House handed the issue to a study group, the President's Cabinet Committee on Energy Supplies & Resources Policy.

• **Up in Arms**—Independent oil producers and coal people haven't been satisfied. They were downright disgusted by rumors that the Cabinet group intended to gloss over the oil import issue without recommending specific action. Recently, word leaked



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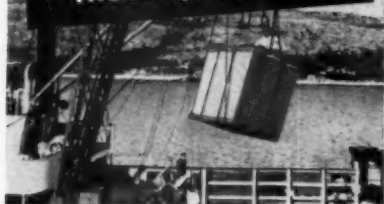
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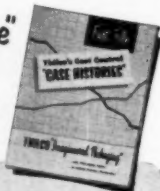
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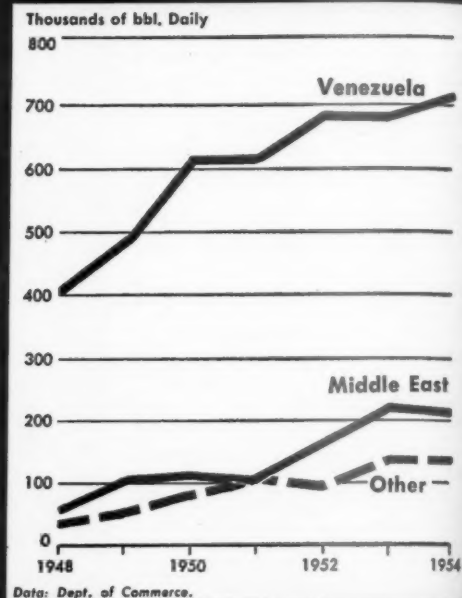
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Where the Oil Comes From

Imports of crude oil and refined products

Venezuelan fuel oil worries U.S. coal industry

U. S. oil men fear Middle East's rising share



out that the big importing companies had been told to exercise restraint on imports—or the government wouldn't oppose Congressional import curbs next year. The result is a "gentleman's agreement" to hold 1955 imports to last year's level.

Domestic producers claim this is a futile policy—and point to ever rising imports.

• **Foot in Door**—There's a new complication in the oil picture today. For the first time, smaller U.S. oil companies have a foot in the door of the fabulously rich Middle East oilfields, formerly held shut by the major international companies. The Iranian oil agreement gives U.S. independents title to 5% of Iranian production. Right now, a group of companies are interested in negotiating with the Iranian consortium. This year some of them may well be sharing the oil. Sun, incidentally, is mentioned as a possible candidate.

The entry of several independents into Iran would make it even harder to limit oil imports short of government action. Besides, interest in the Middle East's crude goes beyond the possibility of a slice of Iranian oil. Some companies (Cities Service is one) are hunting for their own; others are importing it from the majors. Middle East oil—now in surplus and delivered in the U.S. at rockbottom tanker rates—is so much cheaper than domestic oil

that natural competitive pressures tend to force more of it into the U.S.

II. Oil Imports: Con

Talk to independent oil producers and you get a fairly clear reaction to the Sun deal. There's generally a hardening of attitudes, renewed vigor for the fight.

Oilmen say it's further evidence that legislative restrictions are "long overdue." One Dallas operator remarks that every deal for Middle East oil shows that foreign oil enjoys such an unfair advantage over domestic production as to make it more and more the profitable course for oil buyers. His view—one of the most extreme that *BUSINESS WEEK* heard—is that the advantage is "sufficient to destroy the domestic industry unless imports are restricted by law."

Few oilmen share that belief. But they are bitter about the failure of the major importers to take restraining action on their own. Some independents are even asking their employees to turn in gasoline credit cards issued by the majors as one way to fight back.

Domestic producers argue that they do not object to imports so long as they supplement—and not supplant—domestic production. Admittedly that's a fine distinction. Right now they feel that imports are excessive: Too much domestic oil production is shut down.



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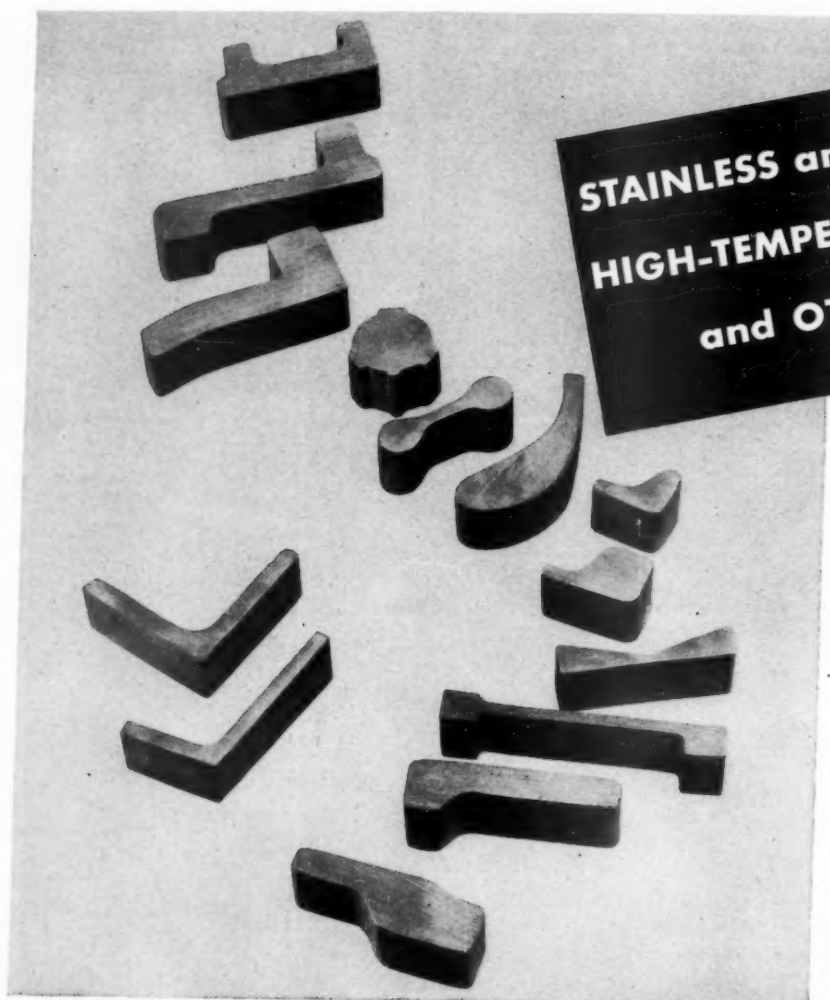
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BUSINESS WE

markets are depressed, drilling and exploration are discouraged. They believe a quota that would allow 10% of domestic demand to be imported would be the right balance.

• **Ally**—Domestic oil producers have a powerful ally in the coal industry. Coal people aren't concerned about Middle East crude oil—their nightmare is the fuel oil brought to the East Coast from Venezuela. "Cheap fuel oil, dumped by international oil cartel," the coal man declares, "is causing permanent loss to the coal industry." Ideally, coal would like to see a 5%-of-domestic-demand quota slapped on fuel oil. But now the National Coal Assn. has pooled its resources with the independent oil producers to fight for a 10% quota.

III. Oil Imports: Pro

The ranks of the independent oil producers are not completely solid. Many oilmen figure that occasional oversupply is inevitable. There can't be a long-term expansion of demand without temporary bumps, moments of oversupply or shortage. The government can't jump in with legislative restrictions every time there's a surplus. One Houston independent philosophizes that in the long run, expanding world demand will take the import pressure off the U.S. In time, he says, growing economies in Europe and Asia will sop up the Eastern Hemisphere's oil.

The major oil importers—Standard (N. J.), Texas, Gulf, Socony-Vacuum, Standard of California—take a similar line of defense. They are domestic producers, too, and have no intention of upsetting the home industry. They believe the U.S. must have foreign oil.

• **At Odds**—Importers take a dim view of the statistics wheeled out by the independent producers. They insist that the domestic industry is drilling more producing wells than ever before, that imports are small by any standard. They note that present shut-in capacity in the U.S. is close to 2-million bbl. daily. Even if all imports were wiped out, they say, you still have a surplus.

Importers give short shrift to the coal industry's arguments against Venezuelan fuel oil. Fuel oil's share of the nation's energy consumption pattern has held steady at around 9% for 20 years; most of coal's losses have been to natural gas and light distillates in home heating and industry, diesel oil on the railroads—none of them imported. Coal's problem, says the oil industry, lies in the sweep of changing technology, not in imports.

Despite increasing pressure, the Administration means to resist imposition of oil quotas to the limit of its political endurance. Meantime, it hopes to avoid taking a final stand and to shift the argument onto the industry.

BUSINESS ABROAD BRIEFS

Britain's road program (BW—Feb. 5'55, p100) has been announced as a \$412-million, four-year plan, less than many Britons hoped for. And the government said it might have to use tolls to pay for part of it, a sore point with most British motorists.

• **Italo-American cooperation:** Union Carbide & Carbon Corp. will help design a \$75-million synthetic rubber plant in the Po Valley that will use natural gas deposits. The plant, to be operated by a subsidiary of Ente Nazionale Idrocarburi of Italy, will use a Union Carbide process. . . . A subsidiary of Gulf Oil Corp. has found Italy's first major oil well, on the Adriatic coast. It's on a concession owned jointly by Gulf and a subsidiary of Montecatini, the Italian chemical combine.

• **Swiss woo U. S. researchers:** Universities in Switzerland are offering scholarships to U. S. graduate research scholars. The Swiss hope their scientific knowhow will help the country keep up in international competition, for example in pharmaceuticals (BW—Feb. 5'55, p94).

• **More dollars for Venezuela:** Socony-Vacuum Oil Co., Inc., announces it will put about \$52-million into this South American country this year for exploration, development, and transportation of oil. This is another sign of the country's continuing boom (BW—Dec. 18'54, p130).

• **West German exchange regulations** have been changed to allow exporters to handle their foreign exchange accounts with more freedom. While the change provides some help for German importers, it will probably give American exporters more reason to worry about German competition.

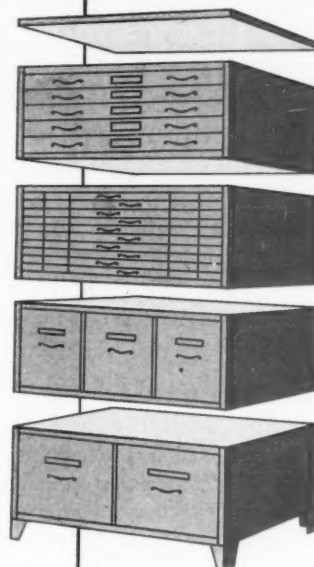
• **Gold and dollar holdings** of foreign countries increased \$1.9-billion in 1954, well under 1953's \$2.6-billion rise. The smaller gain last year was mainly the result of lower U.S. purchases abroad.

• **Butter stocks:** Ghee, the clarified butter eaten throughout India, could be an outlet for getting deteriorating surplus butter stocks off our hands. Agriculture Dept. economists have sent to India samples of U.S. butter turned into ghee. But processing and marketing costs and weight loss in conversion make this use doubtful.

• **Peruvian-British interests** are looking into proposals for financing port improvements at several points in Peru. George Wimpy & Co., Ltd., a British engineering firm, has been called in.



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Developing a Foreign Economic Policy

Bit by bit, Pres. Eisenhower's foreign economic policy is taking shape. It will affect a wide range of investment and import-export conditions, and businessmen are making them-

selves heard. At hearings on tariffs, for example, the House Ways & Means Committee heard testimony from manufacturers of everything from lead pencils to turbines—claim-

ing protection against foreign products—as well as from groups favoring lower tariff. Here's how the Eisenhower Administration's program stood this week:

Reciprocal Trade Program

In the House, the Ways & Means Committee has completed hearings and is preparing the bill for consideration on the floor. The bill would renew the President's authority to cut tariffs in return for similar concessions from other countries. Best guess for the present bill: no crippling amendments in the House but perhaps a rough time in the Senate.

General Trade Agreement

The General Agreement on Tariffs & Trade (GATT) may be the target the protectionists are waiting for. A bill is up for affiliation of the U.S. with GATT, which is an international body with headquarters in Geneva. Senate protectionists under Eugene D. Millikin (R., Colo.), who probably knows more about GATT than anyone else in the chamber, will fiercely oppose the Administration and the supporting Democrats on this issue. If the Senate should block U.S. membership in GATT, the President's authority under the reciprocal trade act will automatically be weakened. Since World War II, all U.S. tariff negotiations have been handled through GATT, by administrative action. The protectionists will question the right of Congress to delegate tariff matters to an international body.

International Finance Corp.

The timetable has been speeded up for this plan to help the economy of our allies and to boost U.S. investment abroad. The 30 countries to supply 75% of the \$100-million capital (BW—Nov. 20 '54, p160) may be lined up by late spring. This would give Congress a chance to approve the plan before adjournment. However, technical problems remain to be worked out—mainly what sort of safeguards should be set for use of soft currencies for capitalization and for IFC's profit margin.

Japanese-U. S. Tariffs

Related to both of the preceding points is the question of tariffs in U.S.-Japan trade. Our negotiators at GATT's Geneva office hope to wind up

multilateral talks before June 12, when the President's reciprocal trade tariff-cutting power expires. But the talks won't start till Feb. 23, and three months has been a record for such negotiations in the past. The U.S. has made progress at Geneva toward getting the Japanese admitted to GATT (page 168). The Administration is optimistic about getting Congress to permit U.S. tariffs on Japanese goods to be lowered. This would help to remove some of the burden of the laggard Japanese economy from the U. S.

Foreign Investors' Tax Relief

A bill shaving the tax rate on overseas earnings from the 52% domestic corporate levy to 38% will be sent to Congress, but it may get caught in the political switches. Such a concession has already been made for Western Hemisphere earnings. Wider application, however, may get entangled in a general partisan struggle over the tax problem.

Customs Simplification

Before the end of the month, the White House will send Congress a bill to save on time, red tape, and litigation. Besides clearing up minor problems that remain after earlier legislative reforms, the bill proposes (1) to evaluate imported goods for duty charges on the basis of U. S. value instead of foreign value, and (2) to empower the Secy. of the Treasury to set foreign exchange rates periodically instead of relying wholly on the fluctuating money markets in making customs calculations. The Democrats are for these proposals and, since only the Republican leadership of the Senate Finance Committee has held them up for the past two years, their chances of passage this term are good.

Foreign Trade Fairs

Commerce Dept. will ask for more money, probably twice as much as last year's \$2.5-million, to take part in trade fairs abroad. The department wants to exhibit in 24 trade fairs around the world this spring. The object: to sell more U.S. goods and meet Russia's propaganda offensive.

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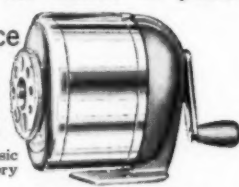
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Inflation Still Plagues Chile

Further devaluation may be required ... A break in Northern Rhodesia copper stand-off raises hope ... German and Japanese trust-busting faces test ... Scandinavian economic union still looks remote.

Chile's Pres. Carlos Ibanez faced a tough decision this week: to devalue or not to devalue. During the last few months, the peso has been dancing upward in its relation to the dollar as it followed the spiraling Chilean cost-of-living. In December and January, however, the inflation rate had eased off to 2 1/2% per month. The fact that such a rate is considered "good" is an index to the chaotic economic situation in the country (BW—May 22 '54, p162).

The Caja de Credito Minero, a semi-governmental banking organization, and the government-owned Huachipato steel mill this week were already selling exchange at devalued rates through commercial banks. They sold at the rate of 200 pesos to the dollar, the official ratio, plus a deposit of 100 to 120 pesos, to be liquidated on Mar. 31 in accordance with the rates of exchange prevailing then.

What kept Ibanez from repeating Chile's devaluation of last November were (1) politics and (2) hope that a rise in copper prices might stem the inflationary tide. Even in Chile where wages and social security benefits usually rise before or along with currency devaluation, chopping money isn't popular.

As the crisis in the Far East began to push up copper prices—(BW—Feb. 5 '55, p29) Anaconda Copper Mining Co. through its two Chilean subsidiaries—Chile Exploration Co. operating the giant Chuquibambilla mine and Andes Copper Mining Co. with Potrerillos—increased its price from 30¢ to 33¢ a lb. Since copper not only represents Chile's most important industry but also its most important foreign exchange earner, some hoped the higher copper prices might temporarily salve Chile's fiscal malaise as high prices had during the Korean War.

Meanwhile, the copper companies (Anaconda and Chile's other big producer, Kennecott Copper Corp.) were puzzling over a new law passed by the Chilean Congress last weekend. The law is a long-promised effort to give the companies relief from the heavy taxation (85% of gross operating costs) that had put them in a poor competitive position in the world market.

Under the new law the companies will pay 75% on gross operating revenue based on an average for the past

five years. It will also progressively reduce the tax as production rises.

First estimates were that this law would reduce Kennecott's Braden Copper Co.'s taxes to 71% or 72%, and Anaconda's to 70% or less. The copper companies' New York headquarters said they would have to wait until all the last-minute amendments to the law had been clarified before they would know just how they stood.

One point was certain: The Chileans still had made no provision for plant depletion, an old complaint of the copper companies. If depletion costs were figured out of current Chilean profits, the companies have said, they would not be making any money at all.

Some progress is apparently being made in the difficult race question that has caused disruption of Northern Rhodesian copper production. Negro mineworkers there, striking for higher wages for more than a month now (BW—Jan. 8 '55, p101), have not returned to their jobs, and the copper companies say they are fired.

Behind their wage demands, however, is the question of upgrading Negroes to semi-skilled and skilled jobs. During the past week, the European mineworkers' union, which has consistently opposed lifting Negroes to higher jobs, has agreed to admit some Negroes to semi-skilled positions. Since this break in the color bar has the endorsement of both the government and the two companies—the Rhodesian Selection Trust, Ltd., and the Anglo-American group—it now looks as though a solution may be forthcoming. The mines are now operating on a limited basis, maybe even suggesting some permanent economies.

Meanwhile, in New York, R. L. Prain, chairman of the Rhodesian Selection Trust, Ltd., confirmed that it would offer shares on the New York Stock Exchange. Its affiliate, Roan Antelope Copper Mines, Ltd., has been listed for some time.

U. S. military occupation policies of breaking up German and Japanese cartels after World War II (BW—Mar. 13

The Fallacy of "Controlled" Inflation

THE battle in defense of sound money is never finally won. It is an unending series of skirmishes in which inflation keeps reappearing in new forms and under new names, always with glowing promises.

One alluring guise in which the inflationary nostrum is now being peddled is the idea of a governmental policy or program in which new money, presumably in the form of Federal borrowings from the banks, would be continuously created and administered to the economy in doses sufficient to exert a slight but constant upward pressure on the general price level. This new money, it is supposed, would gently stimulate demand, raise output, sustain employment, encourage investment, and promote growth and expansion. The economy would remain under the beneficent influence of a mild boom, with full employment, large incomes, a high standard of living, and all the other material blessings associated with that happy state.

An Old Fallacy in a New Form

How much inflation would be needed to produce this economic miracle? A price advance of 3 per cent a year is sometimes mentioned as being about the proper amount. At first sight, this does not look large. The general price level as usually measured has often risen more than 3 per cent in a year. Such an advance, however, does not continue for long. If it did, the results would be surprising. In the course of a normal working life of 45 years, the price level would almost quadruple. A dollar saved at the beginning of the period would have a purchasing power of about 26 cents at retirement age.

"Controlled inflation" is nothing but the old snake medicine of cheap money in a new form. The experiment has been tried again and again, never with the intended results, and often with disastrous ones. In short, the proposal flies in the face of all experience, ancient and modern. It ignores the very nature of inflation.

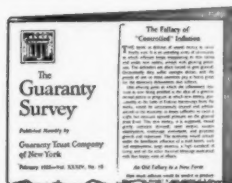
The idea of "controlled inflation" conveniently forgets the disturbing effects of monetary manipulations on business. Changes in price levels affect different commodities and services in different ways. The price structure becomes distorted and ceases to be an accurate indicator of market forces. Businessmen and investors are misled into making false calculations, and the resulting errors have to be corrected. This means business losses, reduced demand, curtailed output, and unemployment. It is proverbial that inflationary booms are followed by reactions. Inflation, unless administered in overwhelming amounts, occurs by fits and starts, occasioning a chain of developments which is the exact opposite of the steady progress dreamed of by the advocates of "controlled inflation."

The hard truth that the inflationists cannot bring themselves to face is that booms generate reactions. The latter are corrective movements, and they cannot be prevented without preventing the needed corrections. The longer they are postponed, the worse become the maladjustments that tend to cause them, and the larger the inflationary doses that are needed to stave them off.

Speaking of a controlled inflation is much like speaking of a controlled forest fire. The hazard does not lie in the possibility that such a scheme might fasten itself upon the economy, but in the fact that it could do immense damage before it collapsed.

From the February issue of THE GUARANTY SURVEY, monthly review of business and economic conditions published by Guaranty Trust Company of New York.

The complete issue is available on request to our Main Office, 140 Broadway, New York 15, N. Y.



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'54,p148) will be severely tested in both countries, during the coming weeks.

The Allied High Commission (Britain, France, and the U.S.) has published Law 84—the Commission's final word on decartelization in West Germany. The new law, figuring that the main job of breaking up the prewar I. G. Farben trust has been pretty well accomplished, puts the liquidation program in German hands. It also will restore the powers of the general shareholders' meeting of the old I. G. Farben A. G.

These shareholders have already received shares in BASF, Hoechst, Bayer Leverkusen, and Casella—four postwar companies formed from old Farben subsidiaries. These holdings are valued at some \$430-million. Farben shares in Rheinische Stahlwerke, valued at \$16.67-million, and in Chemische Werke Huels, valued at \$19.4-million, are yet to be distributed. It will probably take two years before claims, including those of 2,000 former slave laborers, are worked out.

The joker in the whole setup is that there is nothing in the new law to prevent the Farben units from voting to recombine. Nor does the new law prohibit convicted war criminals or former Nazi supporters from serving on boards of directors—although that was a rule under the old deconcentration act.

Meanwhile, the Japanese Diet is busy writing a new law setting up a cartel system that would halt "cut-throat" competition among exporters (BW—Aug.21'54,p115). The law will probably pass by the end of March.

According to Japanese trade and industry ministry officials, it will remedy present occupation statutes that are "insufficient" to keep prices and quality of goods at a high level. These officials stress the government's determination to oversee the new arrangement, not to allow prewar practices such as the division of overseas markets with other nations.

American observers in Tokyo have confidence in the good faith of those drawing up the law. They say it's consistent with Japan's effort to break into the General Assn. Trade and Tariff (GATT) where free trade is the ideal, if not the everyday working principle, (story below).

But they also point out that nothing in the law provides an ironclad guarantee against the development of the prewar cartel system.

Tokyo was certain this week it had more than the two-thirds vote lined up that it needs for entry into GATT.

Twelve of the 27 or 28 nations who have agreed to let Japan in will meet with Japanese delegates on Feb. 21 in Geneva to work out tariff concessions.

Proponents of Scandinavian union couldn't take much heart from the meeting of the Nordic Council last week. The council is a body that seeks to build economic cooperation among Denmark, Norway, and Sweden.

Its boosters hope to see the day when the three countries—and Finland—can get together in a customs union like that of Belgium, the Netherlands, and Luxembourg (Benelux). They point to Scandinavian Airlines System (SAS), a joint venture of the three governments and private interests, to prove what can be done (BW—Nov.13'54,p113).

Last week's annual plenary session tried to strike a compromise on economic issues between Norway, where industry spokesmen say they have little to gain in a free market with heavily industrialized Sweden, and agricultural Denmark, which wants union now. A statement by Jon Ericsson, Sweden's Minister of Commerce, said concrete proposals for the customs problem would be ready by next year's meeting. A staff of experts will continue studying proposals for a unified Scandinavian market in chemicals, pharmaceuticals, iron, steel, the electro-metallurgical industry, metal goods, and electronic products.

Brooding over the conference was the specter of Soviet displeasure with the whole idea of Scandinavian union, especially if it includes Finland. The Finns were represented by observers, who were careful, in line with their foreign policy (BW—Jan.29'55,p114), to point out that no foreign politics or defense considerations were discussed. Moscow's Ivestia has already called the Council "a net of aggressive American politics" to "catch" Scandinavia.

With less international recognition than Western Germany has received, Italian industrial production rose during 1954 by 11%, a rate of growth that only the Germans equaled.

Italian production is now 170% of 1938 output. Other figures show up equally well: Electrical power is more than double prewar; raw steel production was 4-million tons last year, 1-million more than rehabilitation plans called for.

The only really dark spots in the whole industrial picture are in some sectors of heavy engineering—particularly rolling stock; the shoe and tannery industries, and the silk, linen, jute, and hemp trades.



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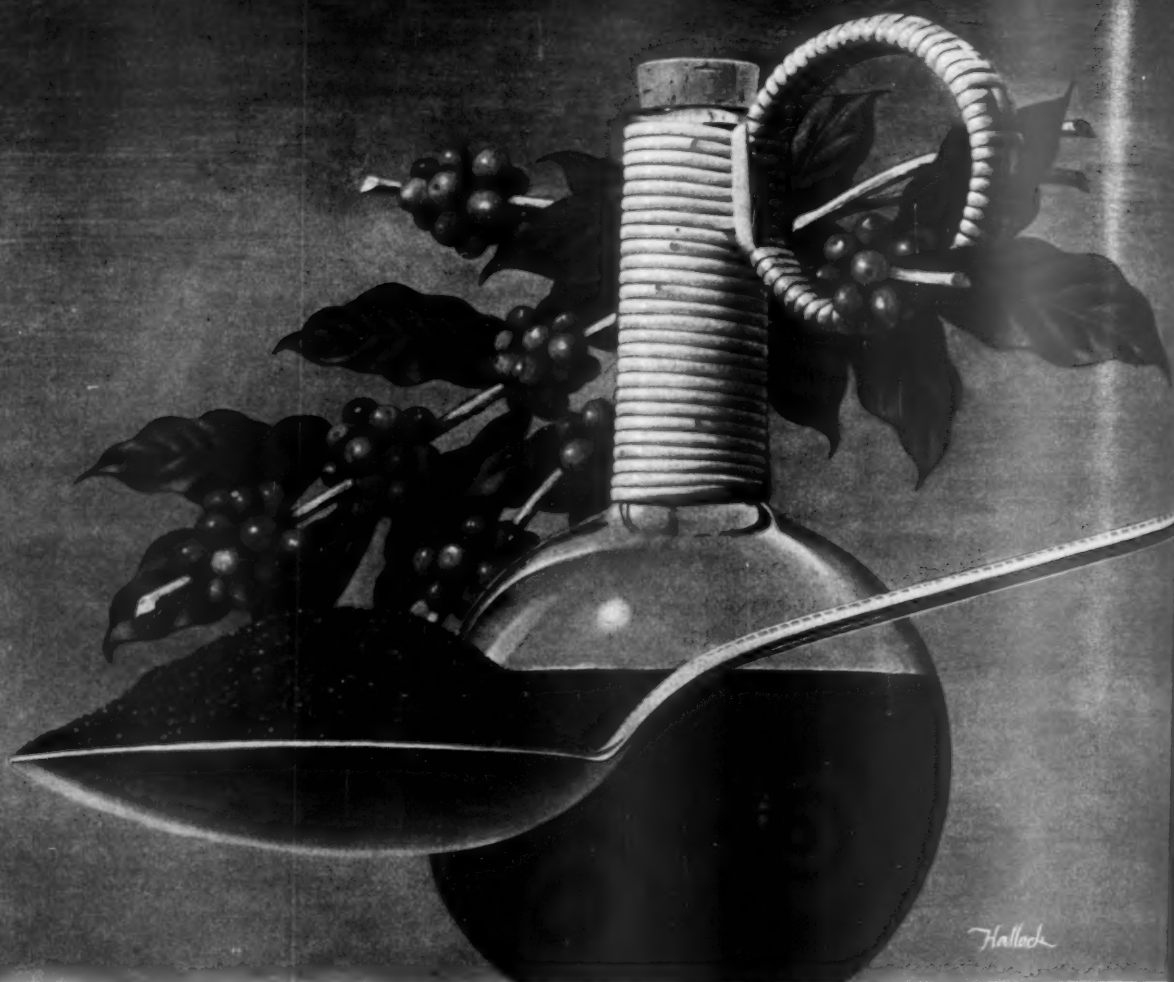
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Coffee . . . and The National City Bank of New York

*Biggest dollar import . . . key to
Western Hemisphere trade*

Last year, Americans drank over 4½ billion gallons of coffee, enough to keep Niagara Falls flowing for nearly an hour!

As a nation, we drink as much coffee as the rest of the world combined. In 1954, over 2 billion pounds (including an estimated 500 million pounds of instant coffee) were used to make 100 billion cupfuls. That's an average of 3,000 cups per second.

Coffee is this country's largest dollar import. Of the 20 million bags we imported last year, 90% came from Latin American countries, principally Brazil and Colombia. Since coffee is their largest export, it's easy to understand why it is often

referred to as the economic foundation of the Western Hemisphere.

Despite its huge tonnages, coffee cannot be mass-produced. It takes 3500 coffee beans—all picked manually—to make one pound of roasted coffee. Each year, one American coffee drinker requires the output of 10 trees. And five years pass from the time these trees are planted until their first crop reaches your breakfast table.

As in all seasonal businesses, a good percentage of the coffee industry's operating capital comes from banks in the form of short-term credit. "From-bean-to-cup" financing to dealers, exporters, importers, roasters, and merchandisers is provided by The National City Bank of New York.

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tion, financing, and other up-to-date banking services to coffee men, because it has fully staffed Branches in or near every principal coffee-growing country, and officials at Head Office who are in daily touch with the industry.

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PERSONAL BUSINESS

BUSINESS WEEK
FEB. 12, 1955



You ought to know how the new tax law eases the burden of family illness or injury. It helps more than you may realize.

One provision of the law makes it possible for such misfortunes to save you tax money. If your company has a plan to continue paying your salary while you are sick or injured, you don't have to report all this salary as income.

This is just the reverse of the old law. In the past, salary you got while out sick was fully taxed. The new rules could save you quite a bit.

There are two important limitations. The first is that you can't get more than \$100 a week tax-free; everything you get over that must be reported as income.

Second, you get this break only for the time you are out after the first seven days of illness. But if you spend at least one day in the hospital during the illness; or if you are out as the result of an accident, then the tax-free pay starts at once.

Despite these bars, the tax saving can really add up, especially for the man with a high income. For example: Say a married man has taxable income of \$32,000 a year. For each dollar he gets above that figure he will have to pay 50¢ in taxes.

Thus if he were out sick for six weeks, and was not allowed to count the first week, he would still save \$250 in taxes.

That's the way the law itself is written, and would apply in general. Still lacking, however, are regulations from the Treasury showing how the law will define a company plan; what happens when employees contribute to the company plan; how it applies in certain states that have off-the-job disability laws; and the like.

In this connection, it's wise to review the tax rules on reimbursement of medical expenses by your own or your employer's health-insurance plan. Basic rule is this: Reimbursements for medical expenses are tax-free—whether or not you have paid the bill at the time you are reimbursed.

You may have a tax problem when you take the medical cost as a deduction. Of course, if you are reimbursed in the same year of the expense, you don't have a deduction—you had no cost.

But if you took the bill as a medical deduction and you are reimbursed in a following year, you report the reimbursement as income to the extent of the deduction. That's because your medical bill is no longer an out-of-pocket expense.

Note that you are never taxed on any more than the amount of your deduction. Here's an example on these two points:

In 1954 you paid a doctor bill for \$100. You have not been reimbursed by your employer's health plan as yet. So you deduct it as a medical expense on your return for 1954.

But in 1955 the health plan sends you a check for \$100 as reimbursement. You must account for this to the tax authorities. You do it by reporting on your return for 1955 (due next year) \$100 as income.

Supposing both your bill and the deduction you took came to \$150, but your reimbursement was only \$100. In that case, you report only the \$100 as income. Or, say you deducted only \$50 of the \$100 doctor's bill. Then

PERSONAL BUSINESS (Continued)

BUSINESS WEEK
FEB. 12, 1955

out of the \$100 reimbursement you would report only \$50. The other \$50 is tax-free.

And if you had no medical deduction in 1954 because you used the 10% standard deduction, your reimbursement is still tax-free.

Distinguish between medical reimbursements and payments for permanent injuries. The latter is a means of compensating you for a permanent bodily loss, and is not taxed. It is based on your injury, and has no reference to the time you're out of work or to medical costs.

In such a case, it's possible that your employer's plan would pay the doctor bill covering the injury, and also pay you for the permanent injury itself. And both payments would be tax-free.

Finally, remember this: The rules covering both doctor bills and payment for permanent loss cover not only you, but your wife and any or all of your dependents.

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Travelers to Europe can now get both credit privileges abroad and special travel insurance—all in one package.

Travelers Credit Service, Inc. (BW—Jun.12'54,p176) says that as of this week its members will be able to get about \$90 worth of insurance for \$15. It's good for a full year all over the world (except the U.S. and Canada.)

Coverage includes \$20,000 travel accident insurance, \$1,000 for medical expenses, and \$1,000 baggage insurance. Reason for the low cost is group underwriting, which is done through master contracts with American International Underwriters Corp. All the applicant has to do is give the name of his beneficiary.

Only members of Travelers Credit Service are eligible. Membership in that group costs \$15 (the \$15 fee for insurance is in addition to this). The service itself allows you to charge purchases throughout Europe only, at carefully selected shops, restaurants, clubs, and car-hire companies.

Travelers Credit claims that it has credit arrangements only at the best places in Europe. It gives its members a guide book giving detailed information about each establishment listed. Both membership and insurance are available through travel agents.

—•—

Here are three recent modern-music record albums worth noting:

- **Jazz for People Who Hate Jazz** (12-in. RCA Victor LP) will appeal more to people who like it. A selection of the best by people like Benny Goodman, Artie Shaw, Count Basie, Duke Ellington, Fats Waller, and such.
- **Just One More Dance** (12-in. Columbia LP). Les Elgart, a fairly new band, plays fairly old favorites like Stardust, Night and Day.
- **Barrelhouse Jazz** (12-in. Columbia LP). Turk Murphy and his band gives out with New Orleans-type jazz, both familiar and unfamiliar.

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Heavier concentration on building safety into modern American homes is paying off. According to the Edwards Co. of Norwalk, Conn., makers of fire-alarm systems, home fires have dropped 2% annually. That figures out to nearly 10,000 fewer home fires a year.

Main reason is that the building industry has paid more attention to safety factors in design, materials, and wiring.

How to stop a sales slump!

You can beat a sales crisis without joining it!

Executives agree—an incentive campaign is the most effective weapon ever devised to stop a sales slump. Properly handled, it makes men work as they never worked before and sharply increases their self-confidence and sales know-how.

Conducted without outside help, however, a successful campaign can pile crisis on top of crisis—adding extra burdens to a staff already busy with vital routine duties and long-range sales management tasks.

Let Cappel, MacDonald do the extra work!

Specialists who have served America's keenest sales executives for the past 33 years will submit complete plans for factory, wholesale or retail campaigns. Our world-wide facilities will handle every detail—arranging resort meetings and other preferred-guest travel, supplying nationally known merchandise prizes, writing and designing colorful promotional mailings and sales meeting material.

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In as little as three weeks' time, America's leading incentive specialists can start your campaign rolling . . . yet service and creative work cost you nothing extra. You pay wholesale prices for merchandise, carrier-resort rates for travel. All prizes are self-liquidating—billed *after* extra sales have produced extra profits for you.

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Ask any of these clients about our service, and get answers like these:

"Sales volume-increase on products carrying contest prize point pay-off totaled \$37 for every \$1 of contest cost," reports a leading pharmaceutical firm. "We have not had a single complaint on service."

"We have received nothing but compliments on the contest," writes an appliance maker.

"Each year has shown growth," says a long-time C-M customer. "We give the national prize campaign major credit for the splendid campaign results attained on Paper."

Send for free facts . . .

Every executive who wants to get more out of his men can profit by reading "The Incentive Story". It tells how to stimulate extra work and enthusiasm, describes record-setting campaigns. Write on your letterhead to CAPPEL, MACDONALD AND COMPANY, DEPT. B-2, DAYTON 1, OHIO.



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RESEARCH

Science Finds New Vitamins, New Uses for Old Ones

THE "CLASSICAL EIGHT"

These are essential for health and normal development

	Good common sources	Prominent effects
➔ Vitamin A	Animal tissues, fish liver oil; yellow and green vegetables provide carotene, a precursor of Vitamin A	Essential for normal growth, night vision, and resistance to infection
➔ Vitamin B₁ (Thiamine)	Whole wheat, oatmeal, peas, beans, peanuts, pork	Essential for utilizing carbohydrates in the body; deficiency can lead to beri-beri
➔ Vitamin B₂ (Riboflavin)	Eggs, liver, milk, yeast, whole grain, green vegetables	Essential for proper respiration in all tissues; deficiency can cause conjunctivitis and serious skin diseases
➔ Niacinamide	Liver, lean meat, certain fish, milk, egg yolk	Essential for proper functioning of nervous system, gastrointestinal tract, and skin; specific factor in combating pellagra
➔ Vitamin C	Tomato juice, citrus fruits	Plays a part in forming connective tissue and red blood cell; essential for healing wounds; deficiency leads to scurvy
➔ Vitamin D	Fortified fish liver oil, and other fortified preparations	Needed for bone formation; absence causes rickets
➔ Vitamin E	Certain vegetable oils, especially wheat-germ oil	Essential for reproduction in animals; cuts down miscarriages in sheep and cattle
➔ Vitamin K	Bacteria in intestinal tract provide enough to meet everyday requirements	Essential for normal clotting of blood

THE NEWER VITAMINS

➔ Folic Acid	Leafy vegetables, liver, yeast	Used in treating sprue, a severe nutritional disorder, and anemias of pregnancy and the newborn
➔ Vitamin B₁₂	Liver	Essential for growth; specific factor in combating pernicious anemia
➔ Biotin	Most animal and vegetable tissues	Involved in the production of energy from fats and carbohydrates
➔ Vitamin B₆ (Pyridoxine)	Seeds, whole cereals, yeast, rice polishings	Needed for protein building and for formation of antibodies against infectious diseases; deficiency causes anemia and convulsions in infants
➔ Pantothenic Acid	Liver, heart, egg yolk, yeast, peanuts, peas, molasses, rice bran	Essential for normal functioning of adrenal glands; deficiency causes premature senility in dogs

Suddenly, Vitamins Are Exciting Again

Many a U.S. family in the last quarter-century has discovered, to its huge delight, that the children are obviously growing toward a taller and huskier adulthood than the parents. Statistics back up the discovery. Not only are children bigger than those of past generations; they are able to resist illness

more easily, and fewer of them die in infancy. It's one of the most solid achievements of medical science in the last 25 years.

Many fields of medicine, as well as some largely economic factors, have contributed to the advance. But a big proportion of the credit goes to the

increasing fund of knowledge about nutrition, and particularly about vitamins—the 13 chemical compounds listed in the chart. These substances, as nutritionists describe them, are needed in very small amounts but are essential to growth and normal development.

Recently—and especially in the past

sably good health and the best possible health.

I. It Started with Lemons

The compounds now known as vitamins—and the list is probably still incomplete—exerted their effects long before man discovered their existence.

Deficiency diseases first turned the spotlight on vitamins, and these diseases (beriberi, night blindness, scurvy, pellagra, rickets) have helped to keep the research pot boiling. The first big discovery came in 1757. In one of the classic studies in the history of science, Dr. James Lind showed that scurvy, the curse of long sea voyages, could be prevented by eating fresh lemons. British naval vessels thereafter carried lemons as part of their stores and included them in rations, and His Majesty's tars became known as "limeys."

• **Rats and Chickens**—First laboratory proof of the existence of vitamins, however, did not come until 1906. In that year, Sir F. Gowland Hopkins showed that young rats did not grow satisfactorily on a diet composed of whole milk broken up into all its known constituents, but that even small amounts of whole, natural milk would restore the growth rate. Obviously, there was some unknown, important ingredient in the natural milk.

In the 1890s, a Dutch physician, Christian Eijkman, working in the East Indies, had shown that a substance occurring in small amounts in rice polishings could cure paralysis in chickens. It was apparently the missing factor required in the cure of human beriberi. In 1911, Casimir Funk dubbed this beriberi-preventing substance "vitamine" because it appeared to be an amine (one of a certain group of chemical compounds) and was necessary for life. While these attributes were not common to all substances of this type, as Funk himself later realized, biochemists agreed to use his term with the changed spelling, vitamin.

In the early years of this century, vitamin research was almost entirely empirical. In clinical work, doctors observed that certain diets produced certain diseases (now called "deficiency" diseases). By manipulating diets, they were able to cure the diseases and discover which foods had what effects. In short, they knew that certain foods had certain effects before they knew the reasons.

• **Letters**—This is the point at which the biochemists got into the act. They took these selected foods apart, worked down to smaller and smaller constituents that still produced the desired effect of preventing deficiency diseases.

They gave letter designations to these constituents. Later, the categories had to be subdivided as the earlier vitamins were found to contain not one, but several often related crystalline substances. Letters with subscripts (B_1 , for instance) came into use. Today the tendency is to refer to a new vitamin by its chemical name only.

The list is a long one by now. If you count separately each of the several known substances included in such group designations as Vitamins A and Vitamins D, and include other food constituents whose classification is still in doubt (choline, inositol, para-amino benzoic acid, carnitine, Vitamin B_{12}), the list contains 40 or more requisites for proper diet.

The bulk of the work with crystalline vitamins dates from about 1935. Scientifically speaking, that's very recently. There are probably other vitamins still to be isolated; afterwards, methods will have to be found to synthesize them. Much current work is concerned with developing less expensive synthetic products.

• **Avenues**—In recent years, many leads for clinical use of new vitamins have come from work with laboratory animals. Niacinamide, for example, was first tried in treating human pellagra because it was found to clear up black tongue in dogs.

Vitamin researchers today are working on many theories. Clinically, they are examining the diets of sufferers from many diseases whose cause is not known, such as cancer and arthritis. In the laboratory, they are manipulating diets of lab animals to determine new nutrients and the best combination of nutrients for possible future study with man.

• **The Industry**—Meanwhile, the drug industry has done a good deal to increase the public's vitamin consumption. It has made vitamins available as pharmaceutical products, and it has promoted them widely.

Large-scale manufacture of vitamins is one of the great achievements of the industry. Manufacture began with Vitamins A and D, which could be concentrated from rich natural sources such as fish liver oils. Most are now produced by chemical synthesis, but some (B_{12} is an example) are obtained by microbial fermentation.

Vitamin production today is big business. A survey late last year by Chemical Week, a McGraw-Hill publication, indicated total retail sales of vitamins in excess of \$250-million. Wares are sold in the familiar capsule and tablet form largely through drug stores. But a significant portion is also sold for animal feed supplementation and for making fortified foods such as en-

NEW FIELDS OF RESEARCH

Here's what's going on in labs

prolonging the prime of life by postponing the process of aging, relieving the feebleness of old age, and preventing diseases of the aged

showing optimal nutrition and optimal absorption of nutrients

other study of the role of vitamins in treating cancer, degenerative diseases

study of nutritional requirements as they are affected by stress situations such as pregnancy, emotion, injury, cold, exercise, irradiation

mapping the interrelations between vitamins, amino acids, endocrine system, and minerals to piece together the complex pattern of metabolism

identification of new vitamins and the determination of their role in health and disease

determination of the exact place of nutritional factors in the problems of infant mortality, resistance to infection, loss of vigor, and other prevalent forms of illness and debility

search for the mechanism that, out of balance, produces obesity — a frequent precursor of many diseases

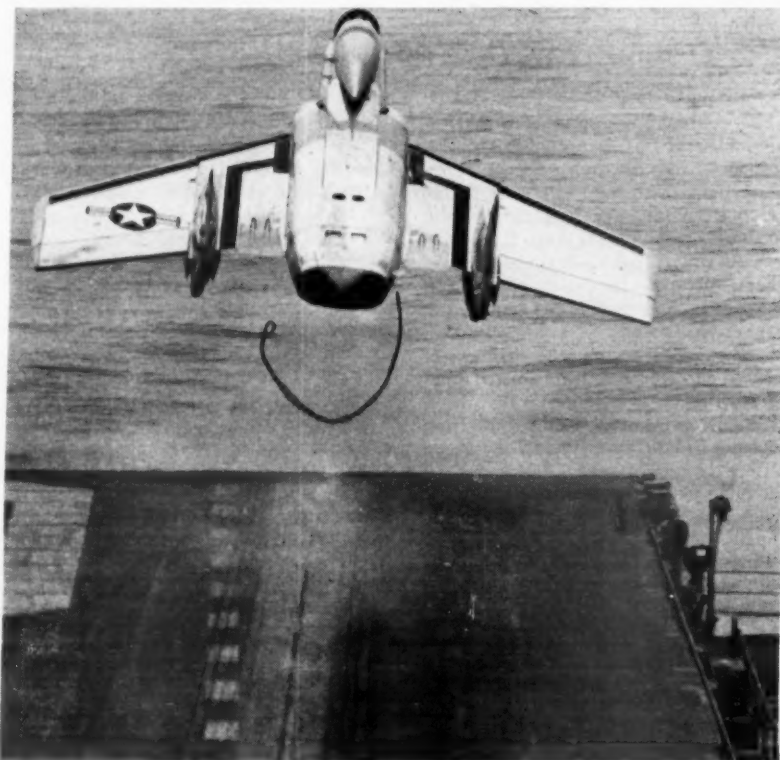
development of new techniques such as the use of vegetable tissue to indicate possible growth factors

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Again

year or two—the emphasis in vitamin research has shifted to older people. More and more study today is aimed at prolonging the prime of life and postponing the feebleness of old age. Earlier research was concerned with deficiency diseases; research today concentrates more on the difference between pas-

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Principal bulk suppliers—the big firms of the vitamin business—are Distillation Products Industries Div. of Eastman Kodak Co., Hoffman-La Roche, Lederle Laboratories Div. of American Cyanamid Co., Merck & Co., and Chas. Pfizer & Co. Other big names in the field, including major distributors, are Abbott Laboratories, Eli Lilly & Co., Miles Laboratories, Parke-Davis & Co., Sharp & Dohme, E. R. Squibb & Sons, U.S. Vitamin Corp. and Upjohn Co. All are engaged in some phase of vitamin research.

II. Age, Alcohol, Nerves

Discovery and then isolation of the more accessible vitamins opened a new door to understanding of how the body converts food into energy. In the first flush of enthusiasm during the 1930s, health educators implied that extra vitamins could brighten your eyes, keep your hair from turning gray, ward off colds, cure tuberculosis or alcoholism, quiet your nerves, cut visits to the dentist, and make children grow taller than their parents. Vitamins became a fad.

Inevitably, a reaction set in. Careful scientists pointed out that we had discovered vitamins indirectly. We knew what symptoms appeared when the body didn't get enough of them. Strictly speaking, that made extra vitamins good only in case you had "deficiency" diseases rarely diagnosed among today's well-fed Americans.

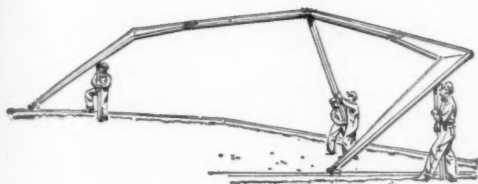
Now the pendulum of medical opinion seems to be swinging back toward boosted intake. While much is still unknown, it looks as if the knowledge now being developed in the labs will confirm some of the early hopes. Dozens of scientists are experimenting with increased dosages of vitamins—administered individually or in combinations—on microorganisms, plants, lab animals. Some of the work, particularly that concerning increased lifespan, is startling.

• **Living Longer**—The big problem that these researchers run up against is how you prove increased life span and greater vitality in adult humans. You can show that boosted intake of certain vitamins has increased the lifespans of water fleas or lab rabbits, but there's no easy way of proving it clinically with people. A lot of work has to be done on a speculative basis. The alternative is to wait around a hundred years or so to get statistical proof from insurance records.

But animals often show satisfying results. Working with lab rats, Dr. Henry C. Sherman at Columbia University got excellent results by quadrupling the normal dosage of Vitamin A. His rats matured earlier, lived 10% longer, and had greater vitality throughout. In effect, he extended their prime of life.

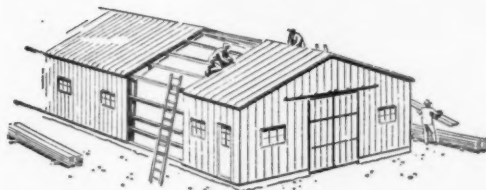
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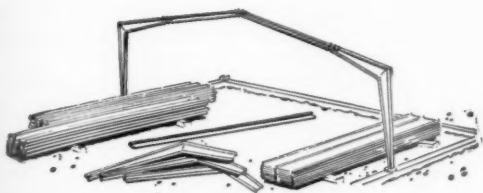
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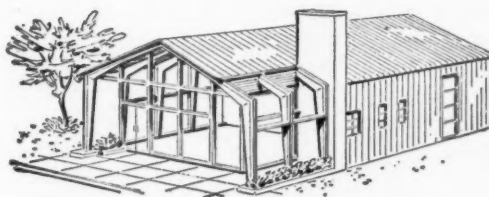
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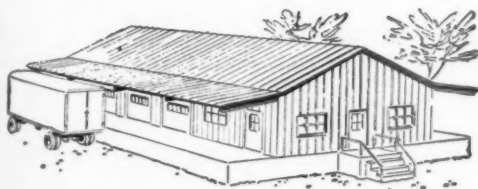
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in both directions. Increasing the dosage above that level didn't seem to do much good. No one knows what the best level for a long, active life in man may be.

It is known that extremely large doses of Vitamin A (much larger than you can possibly get from ordinary doses of a commercial multi-vitamin product) can kill you. This bit of knowledge got into the medical journals by a circuitous route. Arctic explorers discovered that one of the quickest ways to die is to eat polar bear liver. Careful analysis of the liver shows that it's the richest known source of Vitamin A.

• **The Prime**—Old age has been a great stimulus to vitamin research. There are now roughly 20-million people over 60 in this country, an increase of 42% over 1940. Vitamins are among the reasons for the increase. At the same time, the increase itself presents some new problems that vitamins may be able to solve. The research is concerned with three phases: postponing the process of aging, keeping the aged active and productive, and preventing the diseases of old age.

Studying people in old folks' homes, scientists have found that the aged often do not get enough vitamins. This may account for their lack of vigor. A great deal more information is needed, however, on the relative vitamin requirements of the aged as compared with those of young adults. There are problems arising from the older generation's smaller appetite and lesser ability to digest food. In the meantime, older people seem to be doing well on vitamin supplements.

• **Stress**—Probably the three hottest items today in vitamin research are B₁₂, B₆, and pantothenic acid. Laboratory studies on animals seem to indicate that all three have something to say about how long you live and how active your later years can be. All three seem to be involved with growth and general well-being.

Of equal, if not more, importance is the study of nutritional requirements in times of stress. It's clear that women need more vitamins during pregnancy. There seem to be similar needs when you're under emotional strain, chilled, overworked, sick. The same three vitamins appear to be involved here, too.

• **Alcoholism**—Among other important aspects of current vitamin research is alcoholism. Heavy drinkers early learned that they felt better if they regularly took vitamin capsules. Their theory was that drinking had caused a vitamin deficiency in them by cutting their desire for food, and that the capsules helped make up the lack. Then laboratory workers made a discovery that indicated a reverse cause and effect. Rats deprived of some of the B vitamins, it

seemed, could develop a craving for alcohol much like that of a human drunk.

Workers all over the world pursue the clue. Recent work, particularly that of Dr. Jorge Mardones of Santiago, Chile, makes it appear that nutritional difficulties are the cause of some cases of alcoholism rather than the result. Experiments on human drunks are inconclusive at this point, but there is real hope that some day doctors may be able to cure nutrition-linked alcoholism with a pill.

• **Mental Health**—Early vitamin enthusiasts hailed the capsules as a cure for "nervousness." At the outset, they had little to go on but hunch and hope. Then physiologists, studying what goes on when you lift a finger, found that vitamins controlled the complicated chemical and electrical changes required to send a message from brain to muscle. Recent work by Dr. Robert A. Peterman and Dr. Robert S. Goodhart found 13 vitamins essential to metabolism of the nervous system.

The doctors do not jump to the conclusion that mental confusion, irritability, inability to concentrate, and other ill-defined nervous complaints are due to vitamin deficiencies. But they do feel that in many instances these mental ills may be due to a failure of proper energy production or regeneration as a result of mild but long-term vitamin deficiencies. They have often relieved such ill-defined complaints promptly in neuroathenic patients with B-complex vitamins.

With people who have ill-defined pains or a general "under-the-weather" feeling, it's difficult to get clear-cut results. There's always the possibility that sufferers feel better because they're taking something that they think will make them feel better. But there is evidence that the benefits may be more than mental.

• **Bugs**—Some unfortunate people are hounded by the conviction that bugs are biting them. The affliction is known as parasitophobia. Sufferers boil their bedding, bathe frequently, and scratch deep wounds in their skin trying to get rid of imaginary parasites. The ailment is usually regarded as a mental delusion, but psychiatrists admit they don't know how to cure it.

In Iowa, Dr. Irma Aleshire began looking into the eating habits of some patients with parasitophobia and turned up some interesting information. One was a religious vegetarian. Another was joining her daughter in a reducing diet of black coffee and toast. Another had subsisted for months on black coffee, white bread, applesauce, canned orange juice, tapioca, and spaghetti. All of these people were cured when Dr. Aleshire put them on vitamin capsules and a well-rounded diet of eggs, meat, milk,



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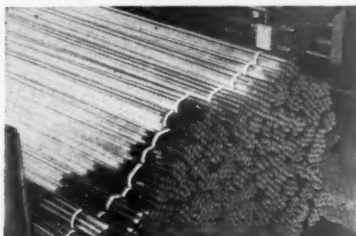
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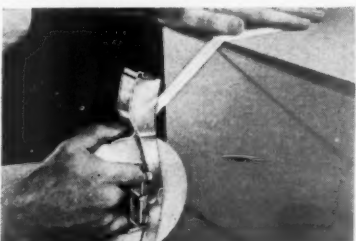
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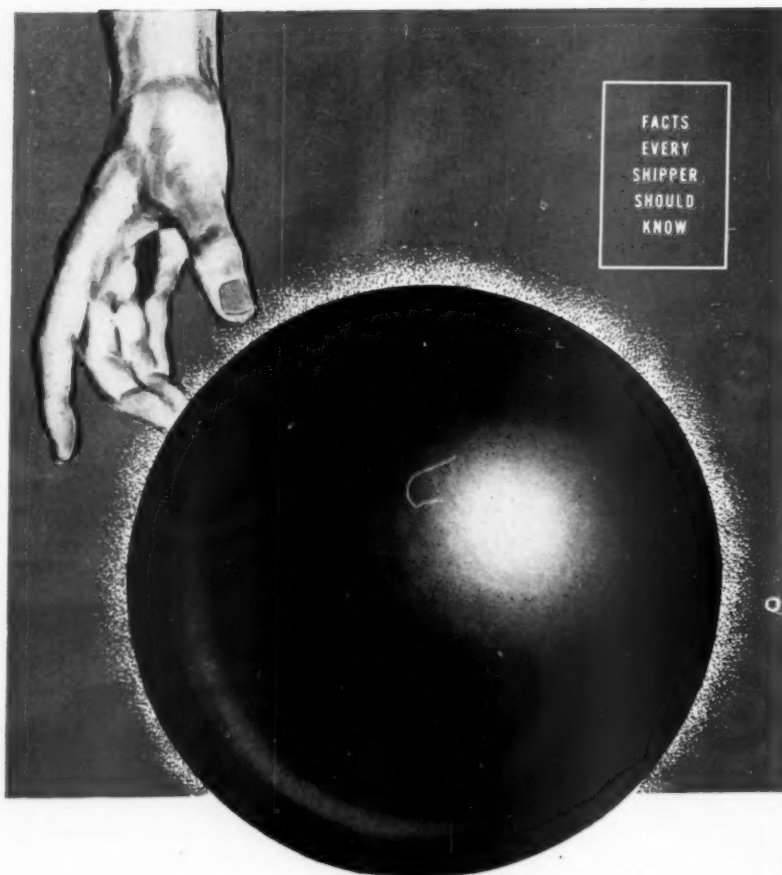
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III. Hidden Hunger

Along with a better understanding of the functioning of vitamins has come the sobering realization that it is not easy to get all the vitamins we need from food. Civilized man destroys many vitamins through cooking, chopping, and other forms of food preparation. Then there's the problem of bad diets. Man is omnivorous, and his digestive system can adapt to many different kinds of nourishment that that of any other animal. This gives him an enormous leeway in what he chooses to eat. He may—and often does—choose a diet that is woefully deficient in vitamins.

Vitamin deficiencies occur even among the well-to-do, the well educated, and the apparently healthy. Nutritionists call this "hidden hunger" and will tell you that relatively few people in the U.S. consistently eat diets that are adequate in all respects.

• **Subclinical**—Take scurvy, for instance. We think of it as a disease of sailors corrected hundreds of years ago by adding lemons to ships' stores. Yet doctors will tell you that many people suffer from minor skin eruptions and tender gums because they have a vitamin C deficiency that amounts to "subclinical scurvy." Last year, for example, Dr. George E. Morris of Boston bloodtested 275 new patients in his private practice. He found that more than 5% had symptoms of scurvy.

The human body can adapt to almost any type of deprivation. That's why "hidden hunger" is hidden. There's a wide gap between the amount of vitamins needed to prevent classic scurvy or beriberi or night blindness or rickets and the amount necessary for full health and vigor. Add in the complexity of vitamins' functions, and the interactions between one vitamin deficiency and another, and you have many vague and shifting symptoms that subclinical deficiencies are a diagnostic headache. Such symptoms include dry hair, scaly scalp, fissured lips, inflamed mucous-membranes, off-color tongue, dry itchy skin, headache, depression, diarrhea, insomnia, and irritability—every one of which could proceed from a variety of non-nutritional causes.

• **Value**—Is it worthwhile, then, to take a multi-vitamin capsule a day during the winter when fresh, vitamin-rich foods are scarcer? Can extra vitamins really do you any good if you eat a normal American diet? Scientists still know too little about the mysterious role that vitamins play in countless bodily processes to answer flatly yes or no, but the swing is certainly toward the affirmative.

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SCIENTIFIC research in the past 20 years developed such wonders as TV tubes, glass ribbon, and photosensitive plate.

Lab Makes Over Glass Industry

When the Boston & Sandwich Glass Co. introduced pressed glassware back in 1825, the glass blowers were so incensed that the terrified inventor went into hiding for several days. But it was this introduction of machinery that shunted the age-old craft onto the big business track.

Since the art of making glass is older than recorded history, it's only logical that in the past 70 centuries man has

found thousands of uses for the product whose raw materials are as plentiful as sand, soda, and lime. The paradox of glass technology, however, lies in the fact that only in the past 100 years has man begun to study glass scientifically.

Out of organized research—particularly during and since World War II—have come more uses for glass than anyone imagined in the thousands of years since some unknown Egyptian fash-

ioned the first glass container for a favorite slave's cosmetics.

Today, William C. Decker, president of Corning Glass Works, says that 75% of his company's present business comes from products that didn't exist 10 years ago.

While all glassmakers are not quite so research-minded as Corning, the company's expansion is typical of what's happening in the industry today.

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many instances, the expansion is geared to take care of research and the new products that research has spawned.

• **Big Four**—Here's a brief rundown on what the industry's Big Four are doing:

• **Corning Glass Works**, which percentage-wise normally spends about twice the national average on research, will undertake in 1955 the largest single construction project in its 103-year history. The new project will more than double the present amount of space devoted to research. Corning has spent about \$60-million on expansion since World War II.

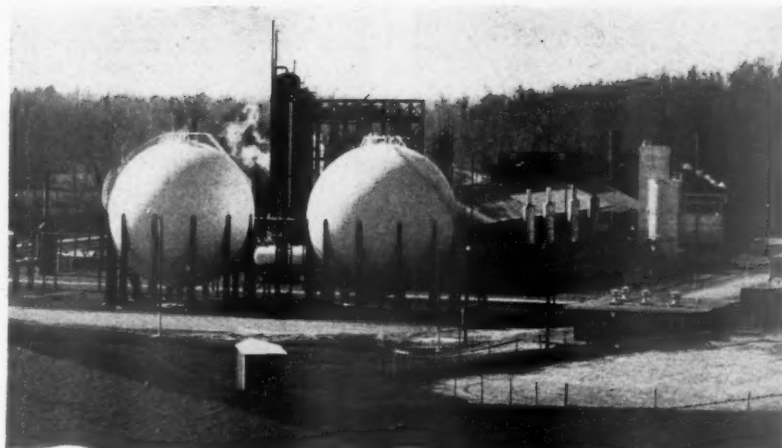
• **Libbey-Owens-Ford Glass Co.**, which supplies its best customer, General Motors, with more than 1-million sq. ft. of glass every working day, sums up the present research problem as simply how to produce more glass. Panoramic or wraparound windshields and the popularity of the picture window have kept the company stepping. Only last fall, it put into production a new \$27-million grinding and polishing plant. Last month the company announced another \$25-million expansion of its production facilities.

• **Pittsburgh Plate Glass Co.**, which with LOF accounts for about 60% of the domestic output of flat glass and 90% of plate glass, has diversified into paint, plastics, and other chemicals. But since the war, it has spent more than \$60-million in its glass division to step up production of sheet, plate, laminated auto glass, and Herculite heat-tempered glass.

• **Owens-Illinois Glass Co.**, which accounts for roughly 40% of this country's annual output of glass containers, will dedicate a new technical center to house some 350 O-I researchers late this summer. The center will be equipped to carry a project from the drafting board through lab and pilot plant tests under conditions encountered in commercial production. O-I has spent about \$130-million on expansion since the war.

These companies with their subsidiaries and affiliates account for roughly half of the estimated \$2-billion annual sales of the industry. There are perhaps 150 other important producers of glass products. Glass has become available in so many different forms in the last 25 years that it is often difficult to find any connecting link between the glass companies other than the fact that they all use sand as a raw material. Much of the industry's competition comes from other industries such as wood, or metals, or plastics, rather than from within the glass industry itself.

• **Many Forms**—The glass paradox extends to the physical properties of the material itself. For example, glass is often represented as being fragile—and it undoubtedly is in some applications.



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We invite your further investigation of Mississippi and its BAWI plan. Your request for information will be handled promptly and treated with confidence.



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But glass has many forms (rods, tubes, sheets, foam, blown and pressed shapes, fiber, wool). In some forms it can be sawed, bent, compressed, twisted, knotted, woven, subjected to great extremes of temperature. Some varieties are lighter than aluminum; others are heavier than gray iron. Fibers can be made with a greater tensile strength for its weight than any other material.

Scientists now operate on the theory that glass is not one, but many materials. Corning, which annually turns out thousands of different glass items ranging from Christmas-tree ornaments to atomic-lab windows, has well over 50,000 formulas on record, using almost every element in the periodic table. Only 440 are used in commercial amounts.

• Coming Up—Many experimental glasses will never leave the laboratory, but other new glass compositions and new fabricating techniques are the bright hopes of the industry. Here are a few examples:

• Multiforming: This is the technique developed for making millions of tiny mountings used on television sets. Fine glass powders are mixed with a binder and molded to shape before heating. The technique is particularly useful in making parts that are too small to cast, or are too irregular to use standard shapes.

Electrical sealing: Developed progressively over a period of 25 years, this technique is beginning to pay off. The glass to be sealed is heated by flame, then electric current is passed through the flame. It's used for sealing pipe, putting faces on TV tubes.

• Tape: Shortages of high-grade mica sources during the war led to the development of ribbon glass. It's about one-thousandth of an inch thick, can be rolled, twisted, or wrapped around your arm. Its electrical properties are equal to high-grade mica. Big use is in fabricating electrical capacitors for television, radio, and other electronic devices.

Fused silica: It's now possible to make 96% silica glass, almost as perfect as fused quartz, but considerably simpler to fabricate. Starting with borosilicate glass (composition used in Pyrex brand ovenware) the product is heated in a high-temperature furnace. Then it is immersed in hot acid, and the boron oxide and alkali content are eaten out—leaving a honeycomb of porous glass. The porous glass is then placed in another high-temperature furnace where it shrinks about 14% in each dimension. Result is a glass with amazingly good physical and chemical products. It's used for laboratory ware, high-frequency furnace linings, burner plates for stoves.

• New Applications—Glass and light go together like ham and eggs. But only

recently have scientists learned the certain glasses are sensitive to light. Out of this discovery have come a number of photosensitive glasses. Corning has one, for example, that can serve as a photographic print. A clear piece of glass is exposed to ultraviolet light through a photographic negative. When the glass is subsequently heated, an image as permanent and as thick as the glass plate appears. This glass also has architectural applications as a translucent or transparent patterned facing for buildings.

An inexpensive paper doily can be produced in glass by similar methods. The doily is placed over a piece of photosensitive glass and the ultraviolet light is turned on. When the plate is immersed in a tank of hydrochloric acid, the exposed areas are eaten away 10 times faster than the blanked-off areas. The result is a very precise glass duplicate of an extremely intricate shape.

• Atomic Prop—Other types of new glasses absorb atomic radiation. One type is used for the heavy windows that allow scientists to watch what's happening inside a radioactively "hot" chamber. Another is used for the dosimeter. This is a tiny square of glass in a plastic case that you can wear around your neck on a dog-tag chain. In case of atomic exposure it will record how big a dose you got, so that appropriate medical treatment can be given. It works cumulatively.

While all of these new compositions and techniques hold great promise for the future, they are not yet bread and butter items. About 90% of the glass we use is mass produced, and research has been busy improving the machines that turn out the stuff for everyday use.

• Machine Age—Mechanization of the industry began in earnest with Michael Owens' invention of the automatic bottle machine in 1903, and has continued steadily ever since. Costs have dropped considerably. The hand-blown bulbs that Corning gaffers blew for Edison's experimental lamps cost about 40¢. They were not nearly so good as the ones Corning now sells for less than 1¢ apiece. Light bulbs are produced on seven huge ribbon machines at Corning. Each machine produces more than 1,000 bulbs an hour, 24 hours a day, six days a week.

Mechanization in the glass industry is most noticeable in companies that serve the automotive, packaging, and electrical industries. But even in these long-established markets, research has come up with some new tricks.

The shaping of wide, curving windshield shields for automobiles is a major research problem at Pittsburgh and LOF. One interesting development in the field this year is a new type of shield

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windshield that LOF is beginning to ship to GM. The company is shifting to a neutral blue band across the top of the windshield—away from the blue-green type introduced in 1950. Research has found that this new tint heightens the reds and oranges used in traffic lights.

•**Old and New Uses**—Competition is probably more severe in the packaging business than in any of the other industries that use glass. Inroads by cans, paper milk containers, and plastics have sent the industry deeper and deeper into research.

To know packaging, the glass companies must know products as well as containers. O-I scientists, for example, have worked out a huge reservoir of information about processing times and temperatures, sealing performance of closures, bacteriology. And research is continually coming up with stronger, lighter glass containers. A modern jar weighs slightly more than half one of equal capacity that grandma "put up" in.

In the electrical industry, there is growing enthusiasm for electroluminescence. A sheet of glass is coated with a thin film of tin oxide, a good conductor of electricity. When certain phosphors are added to the film and current is turned on, the panes give off light.

LOF calls its electrical conducting glass Electrapane, and sees practical uses for it in signs, clock faces, inexpensive area illumination. LOF has another version that gives off heat. It's now used in windshields of police cars, fire trucks, airplanes. It may eventually be used in your cold north windows so that you'll get a warm view all year round.

RESEARCH BRIEFS

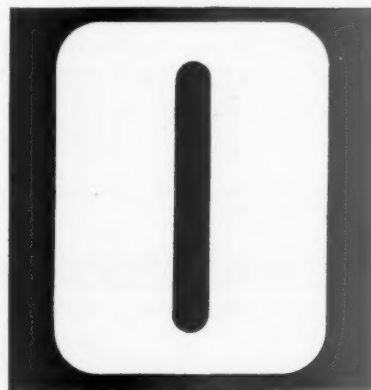
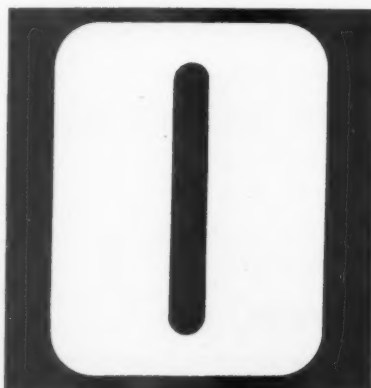
Federal research: Pres. Eisenhower has recommended that the government spend \$2,218,000,000 on scientific programs during fiscal year 1956, an increase of \$147-million over the current year. Basic research again gets a boost. National Science Foundation will get an increase of about \$7-million and another \$11-million is earmarked for support of the International Geophysical Year (BW-Jan.22'55,p154).

Debris from atomic explosions is proving valuable in meteorological research. A Weather Bureau official has revealed that dust, particles, and sometimes snow and raindrops formed from atomic clouds have been used as radioactive tracers of air movements. The tracer technique may be helpful in evaluating effects of cloud-seeding operations.

Venezuela is the first nation outside



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the U.S. to undertake mass immunization with the Salk polio vaccine. This pilot study among some 2,000 infants this spring will determine procedures to be used in the later mass inoculation program.

Columbus' flagship, the Santa Maria will be hunted by an expedition from Miami this spring. Edwin A. Link, chairman of Link Aviation, Inc. and Caribbean treasure-hunt veteran, announced that recently uncovered documentary evidence indicates that the metallic remains of the ship (cannon, swords, and the like) are embedded in the coral of the Lemonade Reef off the north coast of Haiti.

Medical television is growing fast. Both RCA and CBS have demonstrated the transmission of microscopic slides for diagnosis via color TV. . . . Smith Kline & French Laboratories set up a closed-circuit Videoclinic on heart diseases this week to doctors in 32 cities. . . . On Feb. 28, Wyeth Laboratories will run a 58-city, international closed-circuit TV symposium on streptococcal infection.

Scientific evidence: University of Wisconsin Law School and the State Crime Lab have launched a two-year study to find out how lie detectors, comparative micrography, spectrography, and other scientific techniques may be more widely used at trial level. A lie detector, they claim, when properly used by a qualified operator can be extremely useful in evaluating testimony, but many appellate courts do not admit its results in evidence.

Industrial reactors: Battelle Memorial Institute awarded a contract to American Machine & Foundry Co. to build a "swimming pool" type nuclear reactor for a new research center outside Columbus. . . . Armour Research Foundation announced that seven industrial firms have signed up to participate in its nuclear research program, which includes constructing an industrial reactor during the coming year.

New directories: American Society for Testing Materials has prepared a directory of the country's 278 commercial laboratories and 86 colleges that are equipped to undertake various kinds of testing on a fee basis. . . . Dr. Serge A. Korff, cosmic ray physicist at New York University, has published the first comprehensive report on facilities and location of the world's 42 high-altitude research stations outside the Iron Curtain.

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France: One More Crisis

Americans should feel no especial regret or elation at the fall of Pierre Mendes-France's government. We have become all too used to the unseemly tradition of French premiers falling out of favor, and to the companion spectacle of a confusing shuffle to form a new government.

It must be said that in the minds of most Americans, Mendes-France created a stronger impact, both favorably and unfavorably, than most of his predecessors in postwar France. This was due, in part, to the problems of the moment and partly to his own dynamic and dramatic personality. It is still too early to judge his performance, but there is no doubt that he came forcefully to grips with problems that other French leaders had managed to evade.

Thus, Mendes-France, after years of French indecisiveness, deserves credit for bringing about a truce in Indo-China. But he also was responsible for destroying the European Defense Community, and with it, the chance to construct a genuine federation in Europe. True, he pushed through a substitute, but by no stretch of the imagination was his own measure comparable in responsibility and intention to EDC.

Moreover, he has lost office before his alternative, weak as it is, was ratified, by France. Meanwhile Europe has actually lost ground in the long uphill struggle towards the goal of federation.

Mendes' fall illustrates the truth in the French proverb that states the more things change, the more they remain the same. Two things seem certain. First, that the present reshuffling will undoubtedly result in some temporary coalition that, sooner or later, will fall apart. Second, that Mendes will continue to play an important role in the French political scene.

It seems to us that this political game of musical chairs cannot provide the kind of effective government that France needs. If France is to play a part commensurate with her ambitions, she must end her paralysis by making fundamental changes in her political structure.

Confidence Makes Stability

Now it turns out that, in terms of both personal earnings and total income after taxes, 1954 was not the second best year; it was the best.

According to the Commerce Dept., personal income in December was running at an annual rate of \$291-billion—the highest month in U. S. history, and \$4-billion above the year-ago level. The fast pace of business at the end of 1954 boosted total individual earnings to \$286.5-billion. With federal taxes taking a smaller slice of earnings, disposable income rose above the 1953 level by \$3.5-billion.

We are faced with a curious phenomenon: a recession year in which personal earnings broke records.

1954 was indeed a year of recession—at least until September. And, as the President's Economic Report emphasized, the forces making for contraction were anything but mild: The primary contracting factors—inventory spending and Federal spending—declined \$24-billion from the second quarter of 1953 to the third quarter of 1954.

Moreover, 1954 was a year of increased unemployment and, as the income figures show, reduced wage payments. Yet total income rose.

How to explain this paradox? We suggest that the essential explanation for the stability of personal income is to be found in the confidence of the American people in their government and in their country's future.

This is readily borne out by the economic data. In the face of lower earnings, corporations increased their dividends. When inventories, production, and federal spending were declining, Americans kept buying and investing. To do this, they reduced their rate of saving and increased their borrowing. Their ability to do this was augmented by the willingness of banks, businessmen, and builders to supply goods on credit.

The Administration adopted policies that strengthened that willingness. In addition, it helped to keep the income stream flowing by timely tax cuts. Increasing outlays for social security and unemployment compensation, together with increased state and local spending, helped to offset the decline in federal expenditures.

Confidence is a much abused word in the lexicon of business analysts, but it clearly played a significant part in economic events last year.

Steel for India

While the world's attention was riveted on the Formosa Strait last week, New Delhi made news: A Russian mission signed an agreement to sell India the equipment for a 1-million-ton steel mill for \$91-million. The West could not match the price or terms (BW—Oct. 2 '54, p. 150). In effect, the Russians will subsidize the mill.

The agreement still leaves many loose ends: Either party can withdraw from the contract during the next nine months. The Russians have been doing a thorough job in Asia and Africa of selling themselves as friends who fight colonialism. Now they are out to rival the West in economic assistance to underdeveloped areas.

They couldn't have picked a better place than India to begin. As Communist China's only real rival for the leadership of Asia's more than 1-billion people, India is the most important neutral battleground between us and the Communists. If, by extending economic aid like the steel mill, the Russians can keep India neutral, they will have won a major victory in the East-West struggle.

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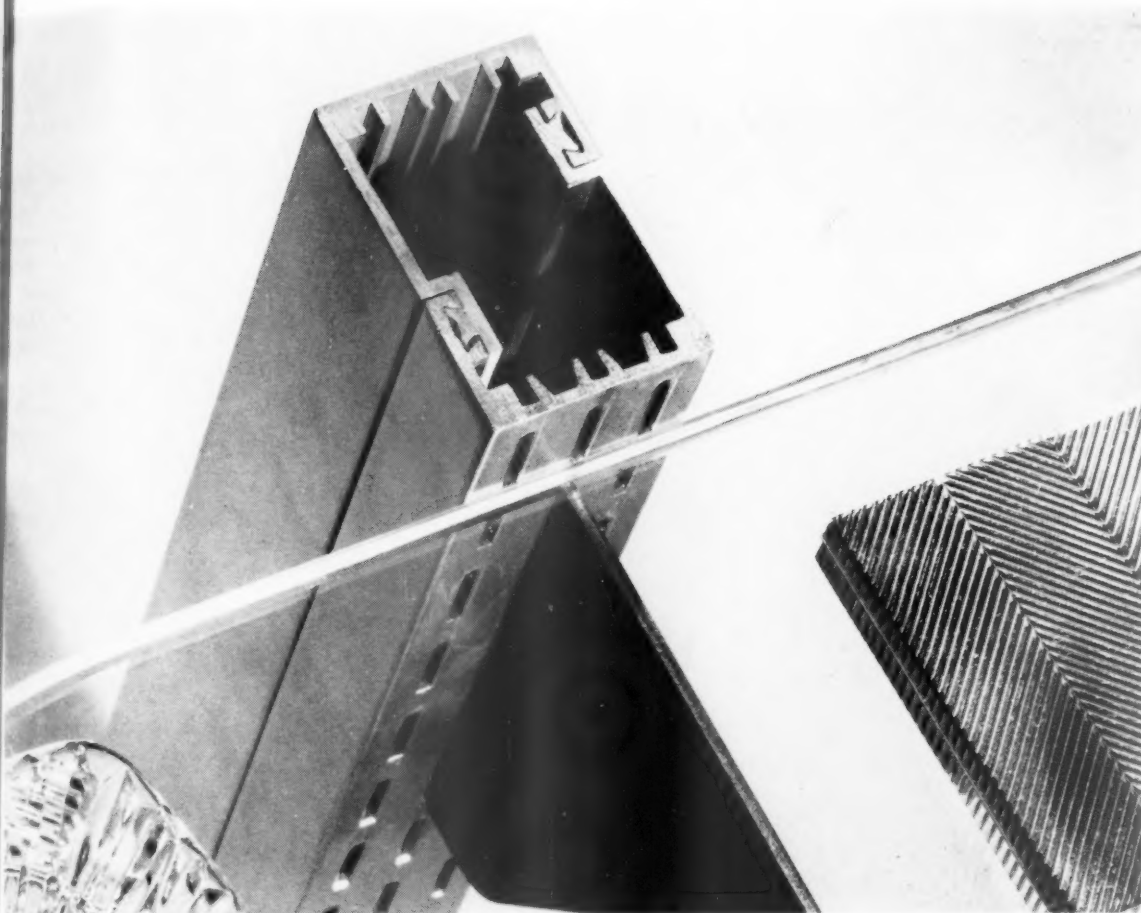
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Giftware tonight...women's wear in the morning

Here's how Harvey, working with one of the nation's leading store fixture manufacturers, makes it possible to change an entire department layout literally overnight. No lost business time, no expensive rebuilding . . . and a better equipped store in the bargain.

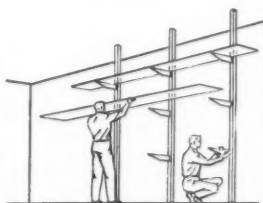
Backbone of these patented store fixtures is the box girder you see above. Shelf brackets, hanging rods or display panels can be attached or detached in seconds. Made of an interlocking Harvey Aluminum extrusion, custom designed for the manufacturer, it forms a super-rigid support or standard, easily moved overnight or capable of standing for years

as a top-quality store interior. It's a specialized use, but it typifies the *double benefit* gained from Harvey Extrusions. As a manufacturer, you gain through lower material costs and greatly simplified construction . . . many operations are completely eliminated. Your customers and your sales gain through a recognizably better product.

If you want a product easier to manufacture, easier to sell, get in touch with Harvey. One of our Field Engineers will be pleased to show how our 40 years of *practical imagination*—backed by the world's most modern independent extrusion facility—can work for you.

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HARVEY ALUMINUM SALES, INC., TORRANCE, CALIFORNIA • BRANCH OFFICES IN PRINCIPAL CITIES

An independent producer of aluminum extrusions in all alloys and all sizes:

special extrusions, press forgings, bar stock, forging stock, tubes, impact extrusions, aluminum screw machine products and related products.

Another new development using

B. F. Goodrich Chemical *raw materials*



B. F. Goodrich Chemical Company does not make this wallpaper. We supply only the Geon polyvinyl material.

Now Geon makes Wallpaper easy to wash

THERE's an artist in every youngster and frequently his work appears on the wallpaper. Crayon, fingerwork and even Mama's lipstick are all vehicles for wallpaper art—but you don't have to worry. A manufacturer of wallpaper hit upon the idea of creating a paper using a Geon polyvinyl material making it easily scrubbable.

The Geon material gives added depth to the design, more life and sparkle to the wallpaper and prevents rub-off. Dirt washes away because of the Geon material; and best of all, the paper is greaseproof.

This is the kind of product improve-

ment for which Geon materials are famous. Translate this into other paper uses—for bakery boxes, shelf paper, covers for handbooks and manuals that take lots of handling and packages for displaying merchandise—all are improved in good looks and durability.

Geon is many things to many products—comes in many forms. Products can be made rigid or flexible, abrasion and corrosion proof, or with the color scheme to your desire. Geon is insulation, upholstery, sponge, rigid vinyl pipe, screening and even weatherproof roofing. Name your problem . . . we will try to supply the answer with ver-

satile Geon. For technical information, please write Dept. J-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.



GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable.
GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON color